THE CULTIVATOR.

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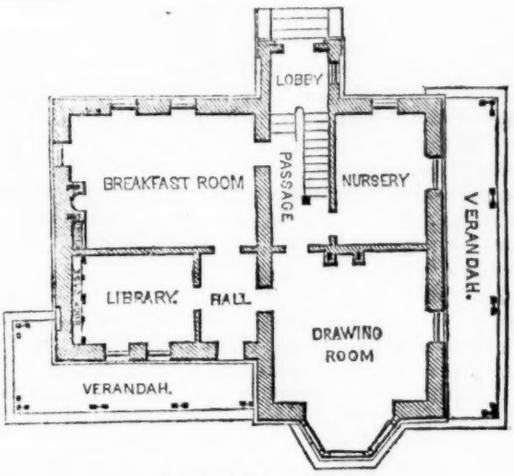
RURAL ARCHITECTURE—HOPE COTTAGE.

"THERE is nothing," observes A. J. DOWNING, "that more powerfully affects the tastes and habits of a family—especially the younger members of it—than the house in which it lives. An uncouth, squalid habitation, is little likely to awaken that attachment to home, that love of good order, and that sense of propriety and elegance in social deportment, which are so much promoted, so much developed, by that home where a certain proportion, a certain fitness, and a sense of beauty, are everwhere visible."

With such views as these, every observing person must hail with much satisfaction, the great improvement, within the past few years, in country architecture. A rapid change for the better, in the adoption of styles adapted to rural and picturesque scenery, has taken place throughout the country. Inexpressive square blocks, and right-angled parallelograms, are yielding to the more free and tasteful erections in neat Gothic and Italian. The stately and formal Grecian, formerly considered the utmost limit of perfection for a country dwelling, has had its day. It may, indeed, do very well for the compact city, and is admirably fitted for the ambitious capitol, or the massive banking house. It may also suit the stiff, geometric style of planting; but this mode of planting has long since given place to the infinitely superior manner of imitating the graceful and picturesque in nature. The Gothic and Italian are divested of formality, and the ease with which the outlines of buildings in these two styles may be broken and varied, render them perfectly adapted to modern landscape gardening, and to maintain that harmony which should exist between buildings and the surrounding grounds.

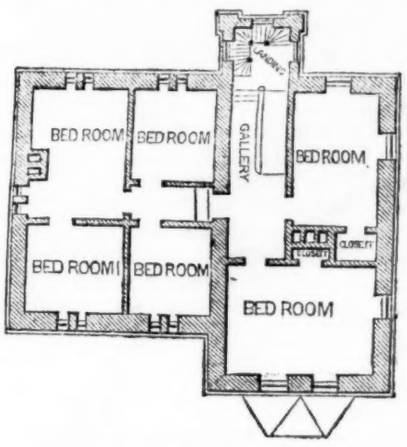
On the ground of strict utility, these modes possess peculiar advantages for rural erections. The convenient juxtaposition of rooms, in Grecian buildings, is often sacrificed to exterior uniformity. But in these, what is regarded as a defect in the Grecian, becomes, in judicious hands, a source of real beauty, by affording a varied and picturesque outline against the sky.

In so rapid an introduction of these new styles, it was not to be expected that every one should at once fully appreciate their peculiar characteristics. Vague and undefined notions must at first exist when a subject entirely new engages the attention. Hence we are not surprised to see many examples of bad taste; the plain, simple, and chaste, being excluded by a profusion of gingerbread work, and fantastic and unmeaning decoration. A more thorough knowledge of correct principles in architecture of this kind, will gradually dissipate these defects; and appropriate and tasteful ornament be only sparingly introduced, instead of superfluous and flimsy carvings. This change, which has already made great advances, promises a most pleasing improvement in the scenery of our country; when true taste, without increase in cost, shall be exhibited in neat cottages, as well as in farm houses and mansions.



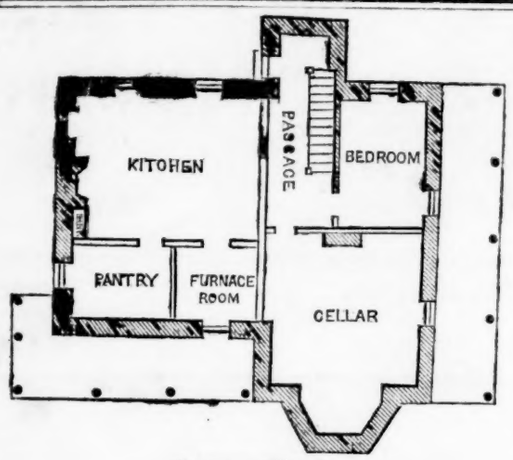
Principal Floor—Fig. 2.

For the purpose of inviting more particular attention to the Italian style of architecture, we have selected for a frontispiece to our present number, a view of "Hope Cottage," one of four, recently erected by



Second Floor—Fig. 3.

E. P. PRENTICE, Esq., on his estate at Mount Hope, on the west bank of the Hudson, just below this city. Almost exclusive attention has been given hitherto to the Gothic style, by those erecting country residences according to the principles of taste and picturesque



Basement—Fig. 4.

beauty. We believe, however, that the merits of the Italian mode of building, are peculiarly adapted to our country; for while it possesses entire freedom from the stiffness of the Grecian, and admits of every variety of outline, it surpasses the Gothic in the simplicity of finish and expression of utility, which is so desirable, and in accordance with our republican character. This cottage was built from a design furnished by Mr. GEO. PENCHARD, an architect of much taste and skill, of this city. Figs. 2, 3, and 4, give plans of the several floors, and require no explanation.

The other three cottages, alluded to above, were erected the past season, from designs by the same architect. One is in the Tuscan, one in the English rural Gothic, and the other in the Swiss style. The latter is a very beautiful specimen of its kind. It is covered on the sides with pointed shingles; balustrades extend around the two prominent sides on a level with the principal floor, and across the front on the second floor, both supported by brackets; while its broad and shadowy eaves give a most interesting expression to the whole.*

Fine-Wooled Sheep in the Valley of the Ohio.

EDITORS CULTIVATOR—Having seen frequent notices of the flocks of fine-wooled sheep in Western Virginia, Western Pennsylvania, and the eastern portions of Ohio, I thought that an account of the origin of some of those flocks, might be acceptable to the readers of the Cultivator. I deem the history of those flocks of more consequence, as it throws some light on the general subject of improving the fineness and quality of wool. I believe the eastern manufacturers consider the wool of this section equal in quality to any produced in the country.

Most of the fine flocks in this section, were originally derived from the celebrated flock of the late W. R. Dickinson, of the firm of Wells & Dickinson, of Steubenville, Ohio; and as the origin and history of this flock seems not to be generally known, I have taken some pains to ascertain it, and have embodied the main facts relating to it in the following account.

I would state, in the first place, that at the time of the large importations of Saxon sheep, in 1825 and 1826, it was stated by those who were acquainted with Mr. Dickinson's flock, that he had sheep which produced as fine wool as any of the imported Saxons, and at the same time their fleeces were much heavier. In 1826 an opportunity of testing this point was presented. The Maryland Agricultural Society offered a special premium in the following words:—"To the owner of the ram which, being shorn on the ground, [of exhibition,] shall produce the greatest quantity of pick-lock wool." The competition was free for the Union. The exhibition was held near Baltimore, on the 1st and 2d of June of the year above-mentioned. The first premium was awarded to Mr. Dickinson, for a ram which he sent from Steubenville purposely for this trial. Wm. Patterson, of Baltimore, received a second premium for a Saxon ram, whose wool was said by the committee to be "a *shade* finer" than Mr. D.'s, but fell considerably short in quantity.

In a letter dated Steubenville, Ohio, May 22, 1826, published in the *American Farmer*, vol. viii, page 81, Mr. Dickinson states that he purchased the foundation of his flock from James Caldwell, Pennsylvania, who was an extensive breeder of Merinos. He commenced the business at an early day, having in 1806 purchased a ram and two ewes from Col. Humphrey's flock. He expended more than forty thousand dollars in purchasing, to use the language of Mr. Dickinson, "the *cream* of almost every importation from Spain during the invasion of that country by the French." Mr. Caldwell accumulated a large flock, which, after the peace of 1815, was principally sold to Messrs. Howell, of New Jersey, who subsequently transferred it to Mr. Dickinson.

The letter of Mr. D. to the *American Farmer*, abovementioned, is accompanied by one he had received from Mr. Caldwell, from which, as it furnishes a clear account of the origin of Mr. D.'s flock, and contains, besides, very important and valuable observations in relation to breeding sheep, I have thought proper to make the following extracts. Mr. C.'s letter is dated Philadelphia, April 11, 1826. He says:—

"In the fall of 1806, I purchased one ram and two ewes from Col. Humphrey's Merino flock, for which I paid $300. This ram was accidentally killed a short time after, and in the spring of 1807, Mr. Basse Muller imported into Philadelphia six Merino sheep, which he said had been obtained by him from the flock of the Prince of Hesse Cassel. The sheep were all remarkably fine animals, and at Mr. Muller's request I took them to my farm, and kept them till they had recovered from the effects of the voyage, and were in a condition to travel. I then prevailed on Mr. Muller to let me have one of these rams, and to name his own price. He consented to do this as a personal favor, and did not consider it *a sale* when he named $100 as about sufficient to defray the additional cost and charges. The sum was paid by me with great satisfaction, although at that time I would rather have had a ram of equal quality *directly* from Spain; thinking it best to procure the water from the *fountain head*, as less liable to impurities than farther down the stream. A sheep seven-eighths Merino *may have* all the external qualifications of a full-blood Merino; but no experienced breeder would think it equally safe or desirable to breed from such an animal, when the genuine full-blood can be obtained. I would prefer one of the best horses of Arabia for *speed and bottom*, to the most beautiful English racer, if I desired to propagate and *perpetuate* those qualities. And *even now*, I would rather cross with the best Spanish ram, than with the best Saxon

* One of the finest specimens of Gothic in the State, is the large and substantial mansion of Robert B. Howland of Union Springs, Cayuga co., now nearly completed. It is built of stone, and every part of the most durable materials, all the roofs being of galvanized iron. It commands a view of Cayuga lake, at one of its most beautiful points of scenery.

Merino, unless I *knew* that the Merino had been kept pure and *unmixed* in Saxony. *The contrary* practice would be gradually but certainly breeding back again into the common stock of the country. I have, however, every reason to believe, that the sheep imported by Mr. Muller were perfectly pure Merinos: and I think Columbus [a noted ram] was the first descendant from Muller's ram, and one of Col. Humphrey's ewes. You are certainly wrong in thinking Columbus was the best ram in my flock. It was Americus that sheared 12½ lbs. of wool which I sold for $25 cash. It was Americus that weighed 148 lbs. Americus was begotten by Columbus, and was, in my opinion, in all respects a superior sheep. I now think that Americus was the best Merino ram I have ever met with, although I have travelled from Boston to Alexandria for the purpose of examining all the early importations from Spain, and of purchasing the best I could find.

"I have expended more than $40,000 upon Merino sheep, but never could find one equal to Americus in every respect. I do not remember the weight of Columbus; but his fleece never weighed more than 9½ lbs., which I sold for $2 per lb. Mr. Howell gave me $300 for Columbus, at a time when the best imported Spanish rams were to be had for $50. The same Mr. Howell gave me *five hundred dollars* for Americus. I presume you have mistaken these two sheep."

There cannot be a doubt that Mr. Dickinson rendered the section where he was located, very important service by the introduction and disseminatien of his valuable stock of sheep. It will be seen by Mr. Caldwell's letter, that these sheep had not only *fine* wool, but that they produced very heavy fleeces—the ram Columbus having sheared 9½ lbs. at a clip, and Americus 12½ lbs.; and the wool of both was of such excellent quality that it readily commanded $2 per lb., cash. The fleeces were unquestionably washed, or they would not have brought such a price. It is true that this was at an early day, when fine-wool was comparatively scarce, but the price is, nevertheless, an indication of superior quality.

In the *American Farmer*, vol. vii, page 331, there is a communication under date of Dec. 23, 1825, from John McDowell, Steubenville, Ohio, in reference to some samples of wool which he had sent to Mr. Skinner, then the editor of that publication. The samples were taken from Mr. McD.'s flock, which he states was derived from Mr. Dickinson, and the quality of the wool was stated to be such that Mr. McD. obtained "*eighty cents per pound for the lot* [about 400 fleeces] *in the dirt.*" Mr. McD. observes that "the country is more indebted to Mr. Dickinson than to any other man in it, for the present standing of the Merino sheep; for when they were at the lowest ebb, perfectly degraded, and suffered to be adulterated, and destroyed in every manner, he meted to them the strictest attention, and retained them entirely pure, and for many years supplied all the flocks of the west with full-bred bucks." In relation to the samples of wool and Mr. Dickinson's flock, the editor of the publication referred to remarks, that he believes Mr. D. could "select from his flock individual rams and ewes in as great number, and with fleeces as fine, as can be found in any flock of like number in any country."

John H. Ewing, Washington, Pa., speaking of the introduction of Merino sheep into that section, says:—"But of those most distinguished for their efforts, Messrs. Wells & Dickinson, of Steubenville, are entitled to the greatest credit. They made great progress in wool-improvement, and spent a fortune to establish their purpose, and in establishing its manufacture." [*Amer. Shepherd*, page 414.

The chief point to which I wish to call attention, in relation to this subject, is, that Mr. Dickinson obtained the remarkable fineness of wool for which his sheep became noted, principally by his own good management. With the exception of the ram from Hesse Cassel, above-mentioned, his flock appears to have originated from Spanish sheep of various importations. He observed great care in his selections, and in that way, and by bestowing proper treatment on his sheep at all times, he continually improved the general quality of their wool; and in this he gave an example which other wool-growers might profitably imitate.

In a future article, I will endeavor to give some notice of the most celebrated flocks in this section. R. W. *Wellsburg, Va., Nov.* 23, 1847.

Domestic Economy, Recipes, &c.

Preserving Grapes in Winter.—W. Williams, near New-York city, describes, in the Horticulturist, two modes of preserving Isabella and Catawba grapes: the first for early winter use; the second for late winter and spring—he has kept them quite sound till April.

The first mode consists simply of depositing the grapes in single layers on shelves with light wooden latice bottoms, arranged within his ice-house.

The second is packing them in boxes, which are of rather small size, (about 1 peck each,) such as may be opened once a week, as wanted for use. As these are for longer keeping, the grapes are gathered, before fully ripe, on a dry windy day, and packed away perfectly dry. They are lined first with paper, and then with cotton, and cotton is placed between every layer of grapes till the box is full. They are then covered with cotton, and the cover fastened down with nails or otherwise. It is found that decay takes place slower when the air is not entirely excluded.

Curing Beef.—By most of the modes now in use, the beef becomes too much impregnated with salt, and is not as a consequence so fine for eating. By the following process this difficulty is prevented, and the beef will keep till the following summer: To 8 gallons of water, add 2 lbs. of brown sugar, 1 quart of molasses, 4 oz. of nitre, and fine salt till it will float an egg. This is enough for 2 common quarters of beef. It has been repeatedly tried and found very fine; a famous beef eater says it is the only good way.

To extinguish Chimneys on Fire.—"First shut the doors and windows of the room containing the fire; stop up the flue of the chimney with a piece of wet carpet or blanket; and then throw a little water or common salt on the fire. By this means the draught of the chimney will be checked, and the burning soot will soon be extinguished for want of air. Let this be remembered by the reader."

Fattening Poultry.—An excellent way is to boil potatoes, and mash them fine, then add meal, just before the food is given to them. It is asserted that turkeys, geese, and other fowls, will thus fatten in one half the time usually required when they are fed on grain alone.

Age of Poultry.—Those who purchase poultry will observe, that if a hen's spur is *hard*, and the scales on the legs *rough*, she is old. If the head is on, the comb will be thick and rough, and the under bill stiff, and hard to bend down. A young hen has only rudiments of spurs, scales on the legs smooth, and fresh, claws tender and short, under bill short, comb thin and smooth. The same remarks, as to the legs, apply in part to turkeys and to geese.

Water proof Glue.—Render glue perfectly soft, but not liquid, in cold water; then dissolve it by gentle heat, in linseed oil. It dries almost immediately, and water will not affect it.

MAKING, SAVING AND APPLICATION OF MANURE.

MESSRS. EDITORS—I have something further to offer, in continuation of my remarks published in the November number of the Cultivator, upon the subject of "making and saving manure." They may appear somewhat *racy*, but yet, I fancy, they will be found to have a practical bearing upon this important matter.

In the November number, I remarked that my breaking up of sward land is done in November. I will be more particular in stating my reasons:—Besides other reasons that might be named, the frosts of winter so pulverise the surface of the inverted furrows, that I can the more easily bury the dressing of compost that is applied in the spring to a suitable depth without disturbing the sod. The harrow is put on first, after spreading the manure, which distributes it more equally over *all* the land, and finally divides the loose earth above the sod, so that when the plow is put in, the roller on the beam being gauged to the right depth, the manure can be buried three to four inches, which is, in my opinion, about the right depth for compost.

By this mode of practice, my corn crops are always heavy. Five years since I broke up a field of ten acres in November, nine inches deep, and in the spring applied forty-two-horse loads per acre, of a compost of two loads of muck to one of stable manure, and planted it to corn. This field averaged eighty-five two bushel baskets of ears to the acre. The crop of oats following was very heavy, as have also been those of grass. I have mowed this field three years, and one raking on a side with a hand rake, makes as large a winrow as can be managed. The year previous a field of five acres, managed in the same way, averaged over ninety bushels of corn per acre.

In speaking of the hog-pen, I might have added, that where practicable, it should be located so as to receive the manure from the horse stable. My hog-pen is situated under the horse stable windows, and the manure of two horses is thrown into it. Horse manure, if left in heaps by itself, becomes almost worthless by overheating; but if thrown into a hog yard there is no danger of over fermentation, for the hogs keep it continually moving, and they also mix it up thoroughly with the other materials in the yard.

Among other materials that may profitably be gathered for manure, I mentioned in my November article, that the accumulation of leaves and vegetable mould, in the hollows and at the foot of hills in woodlands, are good. In the month of November, I dig from these places, with stout hoes made for the purpose, a quantity of this material, and with wheel-barrows put it into a large heap or heaps, so that I can get at it with a sled in the winter—being exceedingly light, it will not freeze more than two or three inches deep, and if a deep snow lays on the heap it will not freeze at all. This is sleded home, a few loads at a time, and put into empty stalls, or in one corner of the shed, and used for bedding the cattle. In the morning, after the stables are cleaned out, a bushel basket or so of this material is put under each animal, and a little straw sprinkled over it. The next morning the leaves and black mould will be quite wet with urine, and this, with the solid excrements, is thrown out of the window. If the windows have a southern exposure, a snow storm of a foot in depth will not lay on these heaps twenty-four hours, owing to the powerful fermentation produced upon this vegetable matter by the urine with which it is saturated. I find this to be the very best manure I make, and although attended with some extra labor, it comes at a season of the year when it can generally be done about as well as not. In travelling the country, how many valuable deposits of this kind you will see, Messrs. Editors, where a stone wall or a Virginia fence borders a wood-lot, and that perhaps a side hill, where the accumulation has been going on for years unheeded by the owner!

In my former communication, I remarked, that lime or ashes make an excellent compost with muck, and gave an example of the value of lime and muck. I can speak in equally as high terms of ashes and muck, a compost which I have repeatedly used. A few years since, I tried what amounted to an exact experiment with this compost without originally designing it. A friend sent me a few ears of a new variety of corn, and as it did not come to hand until after my land was all planted, I took it to a distant lot where then at work, and loaded up a half cord of manure from the bottom of a stable window heap, thinking that this would give each hill a large shovelful. It only answered for about half the corn, however, and as I had a heap of muck and ashes near by, that had been recently laid up, I directed an equal quantity of this compost to be used in the remaining hills, in order to mark the result. Until July the corn treated with manure was manifestly the best, but after that the scale began to turn, and in the fall the corn dressed with the muck and ashes was much the heaviest—so much so that the difference was perceptible at quite a distance.

I have now done with this subject, Messrs. Editors, for the present; but I hope it will be followed up by other correspondents of the Cultivator.

The subject of making manure is an old one, upon which much has been written during the last few years; but this does not hinder that it should be necessary and profitable to us all to be reminded of its importance over and over again. Indeed it may truly be said to be *the practical subject of all others*, connected with farming.

I think I am warranted in saying, that a large portion of the farms, in New England at least, are still annually decreasing in fertility from the want of proper attention to this very business of making and saving manure.

You have acquitted yourselves nobly in this matter, in your volume for 1847. The editorial articles on manure alone in Vol. IV, are richly worth more than the price of the volume. I am compelled to say to your correspondents, however, that this matter ought to be oftener the subject of communications from them. There are many, very many, excellent, practical farmers in the list of your frequent correspondents, whose ideas and practice connected with this subject would be highly instructive and useful, if made known. "Help one another," should be the motto in the agricultural profession, where so much is yet to be learned. We want light in our profession—especially the light elicited from the *practice* of this profession by our intelligent, practical farmers. F. HOLBROOK.

Brattleboro, Vt., Nov. 10, 1847.

WINTER-KILLED WHEAT.—Wm. Little, in the Ohio Cultivator, says that his late sown wheat on corn ground, was much "winter-killed," that is, thrown out by frost, which he chiefly remedied by using a heavy roller, pressing the half-killed roots into the ground, which caused them again to vegetate. Such wheat yielded about 20 bushels per acre.

REMARKS ON BREEDING HORSES.

EDITORS OF THE CULTIVATOR—I am perhaps only one among a thousand, who have read attentively the articles recently published in the Cultivator, entitled "Breeding Horses," and signed "Equus." I think them well prepared, and worthy of your paper; and though I am not quite sure that they were written by a practical breeder, or even an experienced horseman, I cannot doubt that the author of them is an intelligent man, and one who has devoted much time and reflection to the investigation of his subject.

I do not agree with him fully, however, nor do I know that I disagree with him entirely. He is hardly plain enough. I do not know whether he means to advocate or oppose the breeding from thorough bred stallions. I am inclined, however, to interpret his articles as against the practice of resorting to thorough breds. He seems to be privately inclined to take the breeds we have already in our country—such as the Morgan, the Narraganset, the Canadian, perhaps, and the descendants of Messenger and Duroc, and breed them among themselves, to establish a sort of home breed—a kind of "horse of all work." If so, perhaps he is right; though my opinion is he is wrong. And as different opinions sometimes lead us to correct conclusions, I hope you and your readers will indulge me while offering mine.

In the first place, then, permit me to say, that this idea of a "horse of all work," which has been so long held up by our Fair Committees and our Agricultural writers, if not altogether an abstraction, is by no means the ultimatum to be sought by all good breeders. I am confident it has misled many, and that it is still exerting a bad influence. My view is, that the existence of different species of horses, naturally suggests the idea that they were designed for separate and different purposes—and that to combine the excellencies of all in one new and distinct species is, to say the least, by far the most difficult problem of breeding—and one too, which, in my opinion, would never repay the cost of its solution.

Besides, I have never yet seen the necessity of this "horse of all work," whatever he may be, nor do I know that when he shall be produced (if he ever shall be) that we will esteem him more among horses, than we do a "jack of all trades" among men.

I would then here advise, that every person who sets out to breed horses, should first determine with himself which of the various species he would produce. I have no doubt I will be met here with the objection, that in our country we are not yet prepared for the breeding of different horses for different purposes—that this may be done only in England, and the older countries of Europe. But here I frankly take issue with the objector, and maintain that we have already a demand in our own country for three or four distinct species of horses. And first I would mention the carriage-horse, which is much inquired for in all our large cities. This is a large, stately animal, with a long arching neck, and lofty carriage; not required to do much trying service, used chiefly to drive about the city at a slow pace, to take the ladies a calling or a shopping; is seldom in harness more than two hours at a time, and seldom out of the stable more than twice in a day. He is not required to possess any great degree of hardiness, but must have tough feet, and general symmetry of form, though a little legginess, or a little too much length of carcass, will not be serious objections. What is chiefly sought, is a proud step and a noble figure, corresponding with the massive coach, and the costly equipage.

In addition to the carriage horse, there is the smaller, more graceful, more elegant, higher bred horse, suitable for the curricle or the saddle. Still it must be confessed, that though occasionally horses of this description may be sold at high prices, for ladies' saddle horses, and for the use of riding schools, &c., yet the re is not so great or so constant a demand for them as for those we have first described. This arises from the fact that the young men of our country do not delight in the saddle as they should; and I cannot pass this opportunity for expressing my earnest wish that the eloquent rebuke which they received from CHARLES HENRY HALL, in his able report to the State Society at Saratoga, will be felt and improved, so that before this generation even passes, the high mettled, almost thorough bred saddle horse, will command as many purchasers and as high prices as any other horse in market.

In addition also to these, there is in all our cities, and I might also say in all our country, a great demand for the more plebian—no matter what sort of a looking—dash away—three-minute trotting horse, used for the saddle, the sulkey, or the wagon.

And again, there is the straight-shouldered, broad-breasted, heavy quartered, large-boned draft horse, used by the brewers, the colliers and the carmen. Now I maintain that in all our large cities, several kinds of horses exist separately, are used separately, are bought separately, and consequently should be bred separately.

Will it be said that it is not wise to breed horses exclusively for our large cities—that we should look for a wider market, and hence the necessity of crossing, with a view of supplying the demand of the country at large for "horses of all work"—such as will be suitable for the farm, the carriage, the buggy, the saddle, and all? I answer, that if by this is meant we should seek to breed only a fair, common horse, not superior in any feature, but respectable enough in all, I will not wrestle with the objector, but confidently submit the question to the good judgment of your readers. But if on the other hand it is meant, that we should strive to produce a horse of such perfection that he will be equally superior in each department of service, and thus suit every purchaser, I will repeat the opinion, that this, if practicable, is an object too difficult of attainment to be profitable. Indeed, I will go farther, and insist that this would be an object virtually impracticable, because, in all probability, it would be thwarted as soon as attained: for such a horse, instead of remaining in the hands of the farmer, the mechanic, or even the villager of fortune, and used to promiscuous service, would undoubtedly command a price that would transfer him to the stables of some retired merchant or wealthy gentleman, of one of our large cities, where he would be exclusively devoted to one particular department of service, so that after all the expense and pains of breeding him a "horse of *all* work," he would in fact live and die a horse of *one* work.

But perhaps the reader, weary of the argument, is willing to indulge me in the opinion that it is better to breed horses separately, with a view of obtaining the higher prices offered in our city markets. But with the admission he asks, how is it to be effected? I answer that it is difficult indeed for any man to lay down any definite or certain rules in the matter, and I am

by no means prepared to go any farther than to offer a few ideas on the subject, for which I shall claim no other authority than that which shall be accorded to them by the good sense of your readers.

If then, for instance, it is required to breed a carriage horse for the city market, I would in the first place advise the breeder to use great care in the selection of the mare. It will not be enough even, that the animal possesses in herself the main characteristics desired in her progeny; it is necessary also that her whole family—dam, sire, brothers, sisters and all—shall possess them in their main features. She should be an animal, seven or eight, or nine years old, every way sound; should have a fine long arching neck, a sleek coat, a docile temper, short legs, heavy bones, body long and deep, rather compact than loose. I would not have her ribbed up too closely, for this is objectionable in either mare or horse, but a mare should be rather close than otherwise, because this is desirable in her foals; and if there is sufficient length and depth of carcass, there is no danger but the colt will be large enough, though the dam be quite well ribbed up. The mare should have close, good action, a prominent eye, a deep flank, *large milk veins*, and a thick mane and tail; and as I said before, these should be the general characteristics of the family from which she sprung.

Having secured such a mare, or one similar, (which I can assure the breeder will be a work of patience and expense,) he should send her to a thorough bred horse —by all means to a thorough bred—one of the thoroughest of the thorough breds—not a mere gaunt, *scrawny* race horse, whose dams and sires for four or five generations previous, have never got a foal until after they were worn out on the course; but he should send to a *right gallant* thorough bred—one that takes after the old patriarchs of his family—that is staunch and sound, with plenty of bone and substance, and all the resoluteness of action consistent with docility and good temper.

If, after following to any reasonable extent, these directions, any man shall breed mean animals, I will cheerfully throw up my theory, and at once turn my attention to the breeding of mules and oxen. Perhaps, indeed, the immediate result may not be *all* the breeder may desire—perhaps by breeding from one of her selected half bloods he may improve upon his first generation, by obtaining better mares, or rather mares more assimilated to the thorough bred with which he started —perhaps, too, he may produce mares from the selected half blood, that will breed with more certainty and sufficient fineness from other half bred stallions. But I am sure he must return in season to the family of his original thorough bred, or one similar to it, or otherwise his stock will inevitably degenerate. I would give similar directions for the breeding of some of the other species of horses mentioned above, but this article is already too long, and if more shall be said, it must be said at another time.

Syracuse, Nov. 1847. JOHN BARBER BURNET.

NOTES OF A TRAVELLER IN GREAT BRITAIN—No. 8.

AGRICULTURE OF WALES.—The agriculture of Anglesea, in some parts, is in a very advanced state. Many of the estates of the landlords and gentlemen, are in a very high state of cultivation. That of Hon. W. Owen Stanley, member of Parliament, near Holy Head, is under very excellent and even superior tillage and cropping, equal to almost any seen in England. His walls and hedges are in admirable order, and every thing betokens the gentleman of taste, as well as agricultural skill. The domain of the Marquis of Anglesea, near Menai Bridge, also evidences great care and attention; and shows that right directed effort in Anglesea, will secure results equally satisfactory to those made in other portions of the Kingdom. Most of the farms are of medium size—varying from sixty to three hundred acres. The system of tithes, which for years caused great disquietude in North Wales, and had a very injurious tendency upon the improvement of the country, has been changed to a commutation, which has proved, I am told, very beneficial. The tenant is now at liberty to make improvements, and realize to himself all the benefits resulting from them, instead of sharing, as heretofore, in the profits with the landlords, while all the expenses were borne by himself. There are still various restrictions in their leases, some of which are very unwise, and alike injurious both to landlord and tenant. The right of gaming, which is preserved on most of the estates, by which the landlord has the exclusive privilege of hunting, and the tenant is prohibited, under heavy penalties, from destroying the game, however injurious to his crops. Observing in a grass field, where some laborers were mowing, that the grass had been very much injured by the passage of hares through it, I inquired of the farmer why he did not kill them. His reply was, that the law was quite as severe for killing a hare as for felony, and that he was forced to submit to these depredations upon his crops year after year. In many of their leases there is a clause binding the tenants, on each farm, to keep two hunting dogs for the landlord, and to have them ready when the season for hunting arrives. They are collected from the different farms to the game-keeper's quarters, where a fine building is erected, far superior to the cottages of the Welsh tenantry—lodgings for game-keeper and grooms, stables for horses, granary, fine quarters for the hounds, large iron kettles to cook provisions for them, slaughter-houses where the old horses are killed, and every other convenience necessary for the landlord and his friends. When the day for hunting arrives, they go forth over the lands, without regard to crops, and frequently very great injury results to the tenant, and for which he has no redress.

The implements of husbandry are in general quite rude. The Scotch plow, however, is used, and the work is generally well performed. The principal crops raised in Anglesea, are oats, barley, rye, wheat, peas, potatoes, turneps. There is a great objection among farmers to buy for their own consumption, and they raise a variety of crops, though some of them do not realize very satisfactory returns. The weeding of crops is practiced to some extent as in England, and many of their fields present a very neat and clean appearance. There are different methods practiced in sowing wheat. Drilling to some extent is adopted; but broadcast sowing on the furrow, I should think the most common. In gathering the wheat, the reaping hook is most generally used. Sometimes the grain is cut with the scythe, and the cradle is occasionally used. An opinion still prevails among the ignorant, that cradling grain is *forbidden* in scripture, though I did not learn in what part of the Bible the prohibition could be found.

Of their grass crop, the yield when I was there, was very light, and their meadows would almost realize what has been said of Wales—"That a man may mow

in them all day, and carry home his day's math at night." I was told that, in some meadows, the mark of the swath continues from year to year, and on some farms I should think, from the appearance, that there could be no doubt but it is so. Their implements for mowing are very rude and awkward. A straight and clumsy snath, very broad scythe, secured at the bottom of the snath with an iron rod from the snath to the back of the scythe. This, however, is deemed the apparatus best for their lands. A Welshman who had lived with me in America, and who was a very expert mower with one of our patent snaths, told me he could do twice as much, when I saw him mowing in Wales, if he had his old snath and scythe. I have no doubt he could do so, from a trial I made with the Welsh implements.

As a substitute for grass, they use *Gorse* as a food for their stock. This has been in use in Anglesea, and some other districts in North Wales, from time immemorial, as a food for horses. It has occasionally been used, when provender is scarce, for horned cattle. When used, either by itself or with provender, as food for milch cows, it proves highly beneficial. It is a coarse evergreen shrub, growing to the height of two or three feet generally, and propagates itself. It gives to milk and butter a fine color and rich flavor. It is the opinion, that cows yield a better profit than when fed on the best grass or even turneps. The butter is certainly most excellent, as I had an opportunity of testing, equal certainly, if not superior, to any I ever tasted. It is fed to some extent, with turneps, to sheep. Its principal use, however, is in feeding horses. It grows abundantly in all parts of Anglesea, and frequently saves the farmer from great loss, when their is a failure of his other crops. It grows luxuriantly in the thinnest, coolest, and most sterile soils. It can be used either of one or two year's growth. With attention to its culture, and keeping it from injury from sheep, who are very fond of it, it will produce, when cut every year, from eight to fourteen tons per acre, of good, succulent food. And if cut every second year, it yields at the rate of from twelve to twenty tons per acre. There is no crop which furnishes so abundant food as this, with a very trifling outlay. In many parts of the district very little attention is given to its culture, and it is suffered to grow without any care, and yields a much smaller crop than when judiciously managed. H.

UNDER-DRAINING.

At the last meeting of the Hartford County (Ct.) Ag. Society, we had the pleasure of listening to an excellent practical lecture on the subject of *draining*, from Prof. John P. Norton, of Yale College. Having been requested to deliver an address before the Society, Prof. N. decided to confine his remarks chiefly to this subject, instead of discoursing upon agriculture in general terms. The decision was in our opinion a very proper one. Draining is comparatively but little practiced or understood by our farmers; though it is an admitted fact that it constitutes the basis of the great improvements which have been made in British Agriculture within the last half century. During a residence of several years in England and Scotland, Prof. Norton had the best opportunity for witnessing the benefits of thorough drainage, and of becoming acquainted with the best modes which are practiced in those countries. His knowledge of the subject has, therefore, enabled him to treat it in the most satisfactory manner, and we think we cannot do a better service than to lay his remarks, which he has kindly furnished us, accompanied by some illustrations, before our readers:

The subject which I have selected, as one of much interest to a large portion of the farming community, is that of Draining. During a long residence abroad, my attention has almost daily been called to the drain, as in many situations the basis of all good farming. I have seen and admired the results of its introduction, in almost every part of Great Britain. Since my return to this country, each district which I have visited has also reminded me of the drain, but unfortunately—of its absence, or extremely partial employment.

Drains, in their various forms, are, as is well known, channels for conveying away water;—the first consideration that presents itself then, is—in what situations are these channels necessary? They are obviously so in marshy swampy grounds; these cannot be managed at all without them. But there is a class of wet springy soils, sufficiently firm to walk upon or even to plow, which are frequently, in this country at least, considered dry enough. The grass grown upon them is sour and scanty, and all attempts at vegetation are imperfect; the soil is continually saturated with water, while the air obtains imperfect access; various noxious acid compounds are formed in consequence, and plants live with difficulty. The sun's rays warm such a soil very slowly, and it is only when the best part of the season is past, if at all, that it approaches to a proper state of dryness. When now the drain is introduced, it draws the water gradually away from beneath; the air follows from above, and comes in contact with all the noxious compounds which may have formed; it decomposes them, and they become, in most instances, fit for the nourishment of plants. From the land in its wet state a constant evaporation was going on, which prevented the rays of the sun from exerting their full influence; now there is no such evaporation, and the warm air can penetrate even into the subsoil.

The foregoing cases, are of soils made wet by springs; these, however, form but a small class when compared with those that are injured by retaining too much of the water that falls from above. In stiff clays these injurious effects are very manifest. During the whole early part of the season, they are saturated with water, and consequently cold; any attempt to work them only does mischief, by puddling the whole soil into a species of mortar. When the season is far advanced, the surface dries, and at the same time becomes baked into clods, which are only broken up with very great difficulty and expense. But it may be doubted whether drains would have an effect on such stiff soils, whether the water would run into them. Their action first commences on that portion of the soil which lies next the sides of the drain; this gradually dries, and as it consequently contracts, innumerable little cracks are formed, through which the air obtains access to a fresh portion; this process goes slowly on, until at last the whole mass of clay within the influence of each drain continues perfect, though in some instances, they do not pervade the entire soil until at least a year after the drains are made. Some of the stiffest clays in England and Scotland, are now drained most effectually, and with great ease. The full benefit of draining upon such clays, is not by any means confined to making them dry. Air and moisture acting together, produce various chemical changes in the soil which gradually ameliorate its physical character; rendering it less stiff, and more easily pulverized. I have seen many instances, where careful man-

agement, and thorough draining, have made wonderful advances toward the entire subjugation of the strongest clays that are ever cultivated.

It is not only on these stiff clays that a surplus of rain water is injurious. There are many soils in which—though dry at the surface, and to the ordinary depth of the plow, water always stands below a certain limit; this results either from the presence of a close retentive subsoil, or from the peculiar formation of the ground. Below this level, wherever it may be, there is no circulation; air cannot penetrate, and the same stagnation ensues of which I have before spoken, accompanied by the same hurtful effects. When the roots of the plant, pushing downward in search of food, come to this level, they stop; the instinct of nature forbids them to proceed in a direction where no proper nourishment is to be obtained; only a few inches of the surface therefore are available for their support, and unless that surface is very rich, the crops cannot attain to any great luxuriance. In time of drouth, when this scanty surface soil becomes dry, the roots are forced to descend lower; but the substances which they unwillingly receive and convey into the circulation of the plant, are destructive to vegetable life, and if the drouth continues long are fatal to the crop.

The summer of 1845, was extremely dry in many parts of Scotland; it was then found that in all ordinary cases, drained land withstands drougth better than that which is undrained, because of the greater depth of soil available for the plant. During the season two neighboring fields of oats, near Inverness, were alike in all things except that the soil of the one remained undrained. The crop upon the drained field, continued fresh and green, though it did not of course yield so well as it would have done in a more favorable season. In the undrained field a large portion of the plants withered and died; this took place particularly in the hollows between the ridges, where they reached the subsoil first. The quality of the grain which did come to maturity was poor, and a subsequent comparison of analyses made upon samples taken from the two fields, showed a decided inferiority in that which was undrained. It is now a proposition regarded among the best English and Scotch farmers as completely established—that drained land is not only better in wet seasons, but in dry seasons also.

There are sections, where it is necessary to introduce drains, even when no excess of water is present. In some parts of England and Scotland, a deposit or band, of iron ochre and other injurious substances, is formed at various depths from the surface. This deposit is sometimes very hard, and of great thickness: it is of course, even when forming a layer of not more than an inch, an impenetrable barrier to the roots of plants. When broken up by the plow, it forms again at a somewhat lower level in a short space of time. The only method which has been found effectual, is to put in drains at the usual distances, as if to free the land from surplus water, and afterward to break up the land with a subsoil or other plow. The rains then filter through the soil into the drain, dissolving the broken fragments, and carrying away gradually the whole deposit. This action is more or less beneficial on all soils. Where a field has been long in cultivation, a hard layer usually forms immediately under the limit to which the plow reaches; this gradually becomes nearly impervious to the roots, but when once effectually broken up after the completion of drains, soon disappears. The depth of workable and profitable soil, is nearly as great as that of the drains themselves, and the farmer by increasing this available depth, increases his capital; for he augments the capacity of his land to bear good crops without exhaustion. The manures which are applied upon the surface, are also much less likely to seek beyond the reach of the roots; even those parts soluble in water are almost all appropriated by the plant, or enter into some chemical combination in the subsoil, in passing through so greatly increased a distance before they escape. When undrained land, on the contrary, becomes saturated by the falling rain, the water still increasing, at last runs away along the surface, carrying manure and valuable soluble portions of the soil into the roads, or upon adjoining fields. The richest part of the land, the surface, is thus robbed of what constitutes a large portion of its value.

Before leaving this part of my subject, I may mention, as proving the efficacy of drains in carrying away soluble deleterious ingredients, an instance which fell under my observation on the estate of Ballochmyle, near Paisley, in Scotland. The proportion of iron present in the soil was so considerable, as to be a serious injury. When drains were introduced, the quantity carried away was very great. In the soil it existed largely in a state called Protoxide of Iron; in this state it is soluble in water, but when it comes in contact with air, it immediately absorbs oxygen, (a species of gas,) and becomes Peroxide, (or common iron rust;) in this state it is no longer soluble in water. When, therefore, the water from the soil charged with Protoxide of Iron, entered the drain, and came in contact with air, the Peroxide was formed, and immediately settled down to the bottom as a red powder; it was so abundant in this case, that the drains soon became obstructed by it, and the proprietor was obliged to make openings at the upper end of each, for the purpose of introducing a powerful stream of water: this washed out the Peroxide of Iron in large clots. It was necessary to repeat such an operation occasionally, as fresh quantities soon accumulated.

This is not the place to enter into many chemical details respecting the action of air and water upon the soil; the combinations which are broken up and entered into, would be too complicated, even in the present imperfect state of our knowledge respecting them, and too purely scientific for a mixed audience. I will therefore at once proceed to give some information as to the manner in which drains should be made, of what materials, and how far apart they should be placed.

In many parts of New England, stones are so abundant, that even the resource of walls, almost unexampled in magnitude, proves insufficient for their entire disposal. In such cases it may be advisable to employ stones for drains, even where other materials can be obtained at cheaper rates. Stone drains, when properly constructed, are as durable as any others. Smith, of Deanston, the great originator of the present system of thorough draining, says that the stones should be small, none much above the size of a hen's egg. The bottom of the drain should be about six inches across; and from six to eight inches in depth of these small stones, should be thrown in. Turfs cut thin and very carefully, so as exactly to fit, should be laid on the top, overlapping each other, and the earth *rammed down hard*, as the object is to prevent entirely the access of water from above; it should all filter in at the sides, for if it finds an entrance at the top, sand and small stones will wash down, and eventually choke the drain. On most farms in this section, a sufficient number of small stones may be found on the surface of the fields. If large stones are employed, the sides are much more liable to breaking, and such drains also become the resort of rats and mice, whose holes greatly increase the danger of obstruction. The water from a well made stone drain, should run nearly or quite clear even after heavy rains.

Mr. Smith stated, that he has them which have been in operation for twenty years, and have required, dur-

ing that time, no repairs whatever. Where no small stones are to be found, it is necessary to break larger pieces with the hammer, as is practiced in the making of macadamized roads; an operation which adds greatly to the expense.

To meet this difficulty, the expedient has been devised of making clay pipes. These carry off the water effectually, and at the same time lessen the cost of the drain. The tiles first used were made in a horse-shoe form, each piece being about fourteen inches in length, and having a flat sole of corresponding dimensions to place under it, and prevent sinking in the soil, or undermining by currents of water. These were much more cheaply transported than stones, one load going as far as 5 or 6, and the cost of digging was also considerably reduced; for the tile, being only about 4 inches wide, occupies a bed much narrower than the stone. The several pieces of tile were joined together in the bottom of the trench, and formed a connected channel for water. The earth was compactly filled in, and the water found its way through the joinings of the pieces. These tiles were very effective, and have been employed to an immense extent in all the better cultivated parts of Great Britain and Ireland. Whole counties are now underlaid by them, and some of the most enormous incomes have been doubled by this simple improvement. At present, however, another form of tile is coming into general favor. It is a simple round pipe, made in lengths like the first, and for the cross drains of not more than an inch and a half in the diameter of the bore. These can be made much cheaper than the other kind, as they are smaller, and all in one piece. They are not more than half the weight of the old fashioned tile and sole, and therefore an additional saving is affected on the transportation. The trench for their reception is also much smaller, being at the top just wide enough to allow the trencher to work, and cut at the bottom with a narrow tool, to exactly the proper size for the reception of the pipe. The pieces are simply laid end to end, and wedged with small stones when necessary. The water finds its way in at the joints. Many have expressed doubts as to the operation of these drains, thinking that water would scarcely penetrate into so small a channel, through such minute apertures. No difficulty has been experienced in any case. One gentleman, residing in the south of England, who has employed these small pipe tiles in draining exceedingly stiff clays, laying them at the depth of three feet, and ramming the clay hard down, offered a premium of £100 to any person who would keep the water out of them. These tiles, of both varieties, are made by machinery. The clay is worked in an ordinary pug mill, such as used in brick-making, care being taken that no stones are present; it is then forced through a die of a circular or horse-shoe shape, according to the kind of tile intended to be made. It passes through in a continuous stream, which is cut off into the proper lengths by hand, or by a little apparatus connected with the machine. After drying sufficiently, they are burned in a kiln. By the use of machines, and by manufacturing on a large scale, the price of tiles has been brought very low. In some parts of England, the small round pipes now cost only ten shillings, or $2.50 per thousand, each tile being fourteen inches in length. This would make them only about four cents per rod. There is no doubt that should the demand be great, they may soon be obtained here at as low rates. I hope to receive in the course of a few weeks such information from one of my Scotch friends, as will enable me either to give directions for the making of the best tile machine, in this country, or for the importation of a small one from England as a model. If the farmers only call for them in great quantity, I have full confidence that our American mechanics will soon improve upon the best English model that can be obtained. Even at $5.00 per thousand, or eight cents per rod, the employment of tiles would be cheaper than that of stones in most situations, unless they had to be transported many miles. It is moreover, much easier for inexperienced persons to cover them properly. In the Repository of Arts in this city, are to be seen several of the horse-shoe shaped tiles; they are made, I understand, at Enfield, but there seems to be no soles accompanying them, and I do not know their cost. It may not be inappropriate to mention in this connection, the importance of such an institution as this Repository; it is now in its infancy, but if patronised as it ought to be, will become a place where models or specimens of such useful articles may be found,—a place of reference for all professions.

We now come to the important question—How deep should the drains be made, and how far apart? Smith, of Deanston, and many distinguished British farmers agree in the opinion, that the proper distance of separation is from sixteen to thirty-six feet. That first named is proper on stiff clay soils, and the latter only on those which are very light and sandy. From eighteen to twenty-four feet, is, I should think, the more common distance. Upon the subject of depth, great diversity of opinion has been expressed; but I believe that all of the best farmers are now united in the conviction, that shallow draining is in the end bad economy. One of the principal benefits derived from the introduction of the drain, is the deepening of the soil, as I have before explained. But this benefit is never fully, and in many cases not at all felt, until the drain is followed by the subsoil plow. The layer of earth immediately over the drain, should never be disturbed; if the plow breaks it up, particles filter in, and soon impede the exit of water. It is clear, therefore, that the tiles or stones should be laid so deep that the point of the plow cannot approach within four or five inches of their upper surface. The improved implements now in use for subsoiling, go down in some instances as far as twenty inches. Our farmers may never have gone more than ten, but they ought not, by putting in shallow drains, to preclude themselves from the ability to adopt improvements in this direction. Another argument against such drains, is the fact that they do not draw as well as the deeper ones, nor dry so wide a surface. I have known repeated instances where farmers who had made them shallow, were so disappointed in their efficiency as compared with deep ones, that they went to the great expense of taking them up, and relaying them some inches deeper. From twenty-six to thirty-six inches, is the depth ordinarily employed at present, although some maintain that four feet or four and a half is still better; this, however, seems carrying the matter to excess; and there can be no doubt that at distances of from sixteen to twenty-four feet, drains at a depth of from twenty-six to thirty-six inches, will dry the stiffest and wettest land.

Several plows have been contrived for the purpose of cutting the drain trench at one operation. These are drawn by from eight to twelve horses, and following an ordinary plow take out the earth to the depth of from eighteen to twenty inches. A few inches more are then removed by the spade. This plow is said in some parts of Scotland to have greatly reduced the cost of trenching, but has never been generally introduced. I should think it too unwieldy and expensive an implement for this country.

It may be useful to introduce here cuts (figs. 5 and 6) of the various spades and other tools used in cutting the tile and stone drains, and sections of the drains themselves:

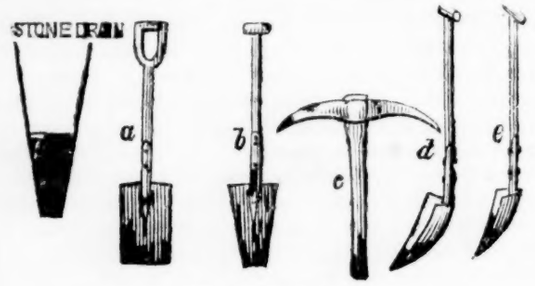


Fig. 5—*Draining.*

Explanation.—a. First Spade, common shape.—*b.* Second Spade, which follows the first, and is narrower.—*c.* Pick, used when the subsoil is stony.—*d.* Large Scoop-Shovel, for removing the loose earth after picking.—*e.* Smaller Scoop-Shovel, for the bottom.

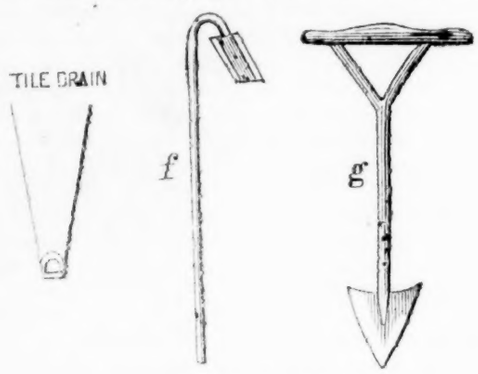


Fig. 6—*Draining.*

Explanation.—f. A flat Scoop, with turned-up edge, for cleaning out the bottom.—*g.* A Flauchter Spade, used for cutting turf to cover the small stones in the Frequent Drain.

The old theory as to the location of drains was, that they should run *across* the slopes, so as to cut off the springs and catch the descending water. This method is now, however, entirely abandoned in all the best districts of England and Scotland; the drains are run *straight down* the slope, exactly parallel to each other, and without reference to wet or dry spots, excepting sometimes a short branch to a strong spring. The layers of earth in the subsoil generally lie in such a direction that the water flows from them at a more uniform depth, into the straight than into the cross drains. The accompanying cut (fig. 7,) shows how the layers run into the cross drains at unequal depths. A drain straight down would cut them all to the same level.

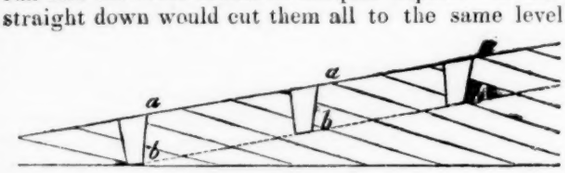


Fig. 7—*Draining.*

In those directed straight down the slope, the current is also greater, and usually suffices to wash away any small obstructions; should they become quite stopped, however, the great pressure will cause them to burst out, and show where the mischief really is. In cross drains the descent is slight, and they may remain choked for a long time before the cause of evil is discovered.

Where the declivity is very gentle, the drains made of small stones do not work well; it is in such cases necessary to employ tiles. Mr. Smith says, "that with careful management a drain will act efficiently when the fall is only four inches per mile." At the foot of each declivity, or half way down if it is a long one, a main drain made of large tiles, or built of stone with a smooth floor, should run across to carry away the water from the small drains; these should not be of a great length without thus discharging, as the friction against the sides of so small a tube, unless the descent is considerable, seriously retards the flow of water. Such main drains should be sunk three or four inches below the small ones. Tiles of a large size are made expressly for them.

Having thus explained the structure, and the theoretical advantages of the drain, it is necessary to say something more definite as to its practical benefits. The farmer who cultivates his land for a subsistence, must always fall back on this inquiry—will this improvement repay me? Profit must be a test of success with him. The verdict of this class in England, Ireland, and Scotland, is most decided. During the last year of my stay in those countries, I visited districts where the utmost efforts of the tile works could not supply the demand. The farms are almost all in the hands of tenants, but the landlords generally bear a part of the expense of draining: in some cases they furnish the tiles, if the tenant will do the cutting and filling of the trenches; in others they allow a certain per centage of the amount expended. The landlord feels that the permanent improvement of his land by this simple process is so great, that he is willing frequently to bear much more than half of the charges. In Scotland, where long leases are prevalent, tenants do not hesitate to drain entirely at their own expense, especially towards the commencement of a lease. Many of them state that the increased produce repays the whole cost of the improvement, in from two to three years. Five or six years was the longest period that I heard stated, and that only in peculiar cases. The actual outlay in the operation, of course varies greatly on different soils, and with the distance of the drains from each other, but it may be stated generally at from £3 to £8 per acre, or from $10 to $40. This gives little information as to the probable cost in this country, as our rates of labor and modes of working are entirely diverse from theirs. The extent to which some large tenants and proprietors have carried their operations, is far beyond anything that single farmers here can do.

In 1846, I visited the farm of Mr. Dudgeon, of Spylaw, at Kelso, near the English border. The surface soil was stiff, and the subsoil almost impervious to water. He had then drained about 900 acres, and the length of drains was nearly 300 miles. His landlords defrayed about half of the expense. He had a tile work which turned out from 4 to 5,000,000 tiles in a year, but not sufficient to supply his wants. He was then in the beginning of a new nineteen year lease, and was draining as fast as possible, in order to reap the utmost advantage. The drains immediately raised the value of his land from a rent of $2.50 per acre, to one of $6.50. Owing to their ameliorating and drying influence, he had fine crops of turneps on stiff clays where it had never before been thought possible to grow them. The system of draining across the slopes had been tried on this farm, but abandoned as ineffetual in comparison with Smith of Deanston's method. He was even going over those fields anew; at the time of my visit workmen were cutting straight down one of the slopes, across the old drains. Mr. Le Roy, a proprietor in the same neighborhood, had put in about 250 miles of drains on his own estate, thereby increasing the rent of many of his farms from $5 to $14 per acre. These were men of large property, but instances of equal or even greater success on a small scale, are frequent in many districts. In travelling over an unusually large portion of Great Britain, and hearing the experience of a very great number

practical men, I never met one who was disappointed in the result of efficient, thorough draining.

The manner of carrying out improvements, and the extent to which they are at once adopted, must necessarily be very different in this country and England. Our farmers are mostly proprietors of moderate means, each managing his own land. We have no tenants who are willing to pay eight or ten thousand dollars of annual rent, when that sum would purchase a suberb estate in the west. Our farming being on so much smaller a scale, the improvements must be more gradually perfected. They may, however, and in this instance ought to be, of a similar character. The remedy for wet cold land is the same here as there, and there are few of our farmers who could not in the course of each year, find time to accomplish something; even without increasing, to any material extent, their usual force. Half an acre or an acre of drains might surely be put in annually on almost any farm, and I have little doubt that he who commenced by one acre a year, would not long be contented without doing more. It is of much importance, that what is done be done *well*. The desire to go over a large surface, should not induce the improver to go over it in an imperfect manner. I have known instances where the drains were put in at double the proper distance, with the intention of finishing from the profit of the first operation. The sequel of such unwise economy is almost always the same. None of the ground is thoroughly drained; the land is still in a state unfit for the most advantageous cultivation; the profit that ought to be derived from draining, is only in a comparatively small degree realised, and the money invested is returning but a poor interest on the outlay. The prospect of a little saving, ought not to be an inducement to neglect the best mode of construction. Due care in the laying and filling, make a difference of many years in the time of duration. In the covering of stone drains particularly, no pains should be spared.

The subject of draining is peculiarly important in this section, where there is so much wet heavy clay land. A large extent of it lies nearly in a state of nature, so far as regards the adoption of effective improvement. On many wet fields in the hollows, there is scarcely any sustenance for cattle, and a large proportion of the hill sides produce only a scanty innutritious growth of grass. Even much of the land that is mowed, produces but a small part of what it would bear, were it not so wet. The land which thus lies entirely idle, or comparatively unproductive, is in many cases of the very best character, strong and deep; the hollows and flats generally are richest, because they receive the washings from the hills.

Improvements upon such soils pay the improver better than any other, because the gain in value is so great. Land which is tolerably dry, produces an increased crop after draining, it is true; but in that which was nearly worthless on account of a surplus of water, the whole crop is a gain. What would pay a better rate of interest than a ton and a half of hay per acre, from land before of little value, even as pasture? I have known instances in Scotland, where in cases of this character, the first crop repaid the whole expense of improvement. Suitable materials for the manufacture of tiles, can be procured in this section with great facility, and if there should be a good demand, they would in a short time be afforded at low rates.

But time admonishes me that I should draw toward a close; the subject is not by any means exhausted, but I think that enough has been said to show the propriety of combining theoretical with practical knowledge. Draining, as now described, becomes a science; giving full scope for investigation, and long courses of elaborate experiments, and I trust that all are convinced, that the results of such experiments may be communicated in a form quite intelligible, even to those who have not turned their attention to scientific subjects. It has been my object to show, that what is ordinarily termed book farming, may yet be practical; and that it may offer results worthy the attention of those who depend for a livelihood on the profits of their profession. Among the best farmers abroad, I heard but one voice as to improvements; it was always the remark that those who farmed *highly*, made most money. That is—those who reasoned most upon their pursuit—who studied the causes of good or bad crops—who availed themselves of every source of information, and who expended the most money judiciously upon their lands, always obtained the largest profits. A stress should be laid upon the words *judicious expenditure*, because we see some in all communities, who enter into improvements rashly, and without due precautions. The failure of such ill-advised attempts, exposes a good cause to ridicule. I would not, however, be by any means understood to say, that all farmers should become scientific men; that is clearly impossible; but they may through lectures, or through books, acquaint themselves with the great principles upon which the cultivation of the soil should be grounded; may obtain an idea of the nature of the substances with which they have daily to do. Such knowledge as this is simple, and can be attained even by an intelligent child, of twelve or fourteen years.

Diseases of Animals.

Founder in Horses.—A writer in the S. W. Farmer says that he rode a hired horse 99 miles in two days, returning him at night the second day. In the meantime he had been deeply foundered, but so effectually cured that the owner would have known nothing of it, if he had not been told. In other cases he was nearly as successful. This is his method of cure:—Bleed him immediately in the neck, according to the severity of the founder—in extreme cases, as long as he can stand. Then draw his head up, and with a spoon put back on his tongue salt enough till he has swallowed a pint. Let him drink moderately. Then anoint the edges of his hoofs with turpentine, and he will be well in an hour. The salt operates as a cathartic, and with the bleeding, arrests the fever.

Puerperal Fever in a Cow.—It is stated that some apparently hopeless cases of this disease have been cured by a compound of ether with cathartics. In one case, where there was every appearance of speedy death, by repeatedly administering these medicines, the cow in thirty-six hours got up and began feeding, and was quite well in a week.

Disease in a Cow's Udder.—In the month of May, 1846, I had a beautiful young cow, that gave over twenty quarts of milk per day, injured in one of her teats to such an extent, that the milk could not be drawn, and in consequence suppuration of the bag ensued, and I lost the use of her. Some two weeks after the injury, I lanced the spot where the first indication of suppuration appeared, and I repeated the opening four or five times afterwards, at different periods and in different places, with good results; but the bag continued to yield pus for ten months. Now I wish to learn whether, if I had opened the teat through the milk-passage, at the proper time, the teat might not have healed, and the cow been saved from the butcher? Would not a compress, secured by a tarred cloth, prevent the spontaneous flow of milk in such a case as is alluded to in your answer to the inquiry of J. L. R., in the last volume of the Cultivator, page 287?

Autograph.

HORTICULTURAL DEPARTMENT.

CONDUCTED BY JOHN J. THOMAS.

The Pear Blight.

THE past season has been unusually destructive to the pear tree. In some gardens, scarcely a tree has wholly escaped; and in many instances entire trees have been destroyed. The frequency and extent of this disaster is likely to prove a serious drawback on the general cultivation of this delicious fruit, which otherwise would rank, perhaps, second to none in importance.

Doubts of the correctness of received theories of the blight, seem to be rather increased than diminished with this increased prevalence. Every additional fact must be of importance, as every new aspect of the disease, whether for or against established theories, will enable us the better to look for a remedy.

The *Blight* in the pear, is another name for *death*. When a branch suddenly dies, from whatever cause, its leaves turn black. If the limb be girdled, or lopped by breaking, or destroyed by insects, or poisoned by disease, the same external appearance is presented. But the infusion of poison may blacken the leaves more suddenly than mere mechanical causes.

Two theories, it is well known, have been extensively adopted, viz: those of the *insect-blight*, and the *frost-blight*.

1. The first, which has been known for many years, and more especially adopted in New England, ascribes the mischief to an insect which, though very minute, or scarcely the tenth of an inch long, girdles a considerable portion of the interior of the branch, and thus cutting off, in part, the supply of the sap, when most wanted at a rapidly growing season, produces local death. Actual observation has proved that this insect is, in some cases, a cause of death in the branches of the pear. It must be so, however, to a very limited extent, as no traces of its work are seen by the closest microscopical examinations of affected branches, in most parts of the country. It also usually happens that a very large part, or nearly all of a branch, must be cut across to produce death, as any one may prove by the use of a knife; hence it may be reasonably doubted if so minute an insect could always operate to a sufficient extent to produce the disaster, unless it infuses poison, of which there appears to be no evidence of a positive character.

2. The most usual form of the disease is what has been of late years known under the name of *frost-blight*, or *frozen-sap blight*. This has been accounted for on the supposition that the severe frost of late autumn or winter, so affects the sap of unmatured branches as to destroy its healthy character, or to induce a change similar to that of fermentation, and thus to poison, instead of nourishing, the growing branches. This is supported by the following facts:—

1. Blight most usually attacks trees of late-growing or unmatured wood, or of such varieties as are not of compact growth. Hence trees on very rich or moist soils, which continue to grow luxuriantly till cold weather approaches; or such as have been checked at mid-summer, or pruned late, so as to produce a late second growth; or such as are remarkable for porous or spongy wood; are eminently liable to its attacks. The Madeleine and Bartlett have unusually spongy branches, and have long been known as extensive sufferers; while on the other hand, the Seckel and Summer Bonchrietien, (though the latter is a rapid grower, it is of very close, compact growth,) have rarely been known to be attacked. Whether the frost operates on the sap only, or on the unripened wood, or on both, is not a matter of so much consequence as the fact, extensively proved, that good healthy trees, on a dry soil, of moderate fertility, well cultivated, so as to produce a fair growth early enough to ripen thoroughly, are generally much safer from blight, than those under the unfavorable circumstances just mentioned.

2. Blight has usually been found to prevail most extensively after severe winters, preceded by warm, moist autumns; and has also in some cases been noticed to be very general within a few days after very severe night frosts at the commencement of summer, when the new, tender and succulent shoots are easily affected. The latter result was particularly noticed in 1844. It has also been since observed to follow immediately severe frosts at the same season of the year, which were not noticed by any but early risers; and in one case, a frost was accidentally noticed near midnight, but was dissipated before morning by a warmer wind. Several cases of blight were soon after observed. This last form of blight, which perhaps is direct and immediate death from the freezing of the young shoots, must be somewhat different from the true frozen-sap blight, which often is not conspicuously manifested till several months after the first injury. It may often happen, however, that the diseased and fermented sap, from a frost-killed and succulent shoot, may run down the larger branches, and rapidly spread the evil of its poisonous influence. As a consequence, though numerous cases may suddenly follow the frost, the disease may prevail more or less from the same cause, for several weeks afterwards. This result has been observed in two very distinct instances within a few years.

There appear to be some cases of death in the branches of the pear not satisfactorily accounted for by the above theories. P. Barry, in the *Gen. Farmer*, states that on his own grounds the blight has been uncommonly destructive the past season, attacking many healthy trees on hard dry land, with well ripened wood, including the Seckel, which has been thought by many to be proof against the disease. It is true, the land where they stood had been highly enriched by manure but this did not cause a late unripened growth the previous autumn. But the following fact is worthy of notice: "In close proximity to these trees, stood thousands of young nursery trees, not one of which was affected." Why should large trees, which ripen their wood so much better than young and rapidly growing ones, be alone affected? The only tree on the grounds of the writer, at all injured the present year, was one of rather slow growth, standing on drier and firmer soil than most of the rest, which escaped. Not the slightest mark of an insect could be discovered.

In connexion with this subject, it may be stated that apple trees, as well as quince and hickory, have been extensively affected. But with the apple, the disease does not appear to extend down the branches as with the pear, but to be confined to their extremities. We cannot discover, after much observation, that one sort of apple tree is more affected than another, although mostly confined to *old* trees; nor that warm frosty valleys, where vegetation is most rapid, and cold most severe, on clear nights, favor the disease more than other localities.

During the present year, the greatest number of cases were noticed to have occurred after a number of days of very hot, dry weather, towards the latter part of summer, when the trees had passed the season of

their greatest rapidity of growth. Even the Osage Orange, supposed to be secure from insects, was affected late in the season.

Whether in the preceding cases, the mischief had been commenced the previous winter, and was slowly advancing in progress, until it was suddenly developed, in the midst of summer; whether old or feeble trees are in some cases more liable than young and thrifty ones to the combined influence of cold, and the heat of summer; or whether this disaster is not the result of sudden atmospheric changes merely; or is caused by an influence as unknown an inexplicable as the potato malady, is at present, at least in some degree, involved in conjecture. That insects have produced it, and that frost often occasions it, cannot be doubted; but there may, nevertheless, be other influences quite as potent and extensive; and where all are more or less operating at once, satisfactory conclusions must necessarily be very difficult.

It has been suggested lately, that the disaster is produced by "a minute, venomous insect, the sting of which is poisonous to the juices of the pear." But as neither the insect nor the perforation of its sting, have ever been distinctly discovered, and as it is not known that insects attack vegetable growth merely for the purpose of stinging and poisoning, and without some specific object, as for food or depositing eggs, either of which would be soon discovered—we think this theory must for the present be regarded as too conjectural to be adopted.

Whatever may be the cause of this truly formidable evil, the best remedy, alike applicable to all cases, is instant excision of the affected parts. If an insect is within, burning the branches is essential. In the frost blight, cutting off some distance below the affected parts will, in most instances, prevent the poison from flowing downwards. It is true it often happens, where a tree is slightly affected, it recovers without any care; while again, when badly diseased, the whole tree may be cut away before the evil ends; but in by far the majority of instances, the remedy will be highly useful, and save the tree. It however often fails for want of constant and daily watching, and unremitting application.

The best modes of *prevention* will doubtless be more fully known when the causes are better understood; but the precautions noticed in a former part of this article, to produce a good, healthy, well ripened growth, will, in many cases, be advantageous.

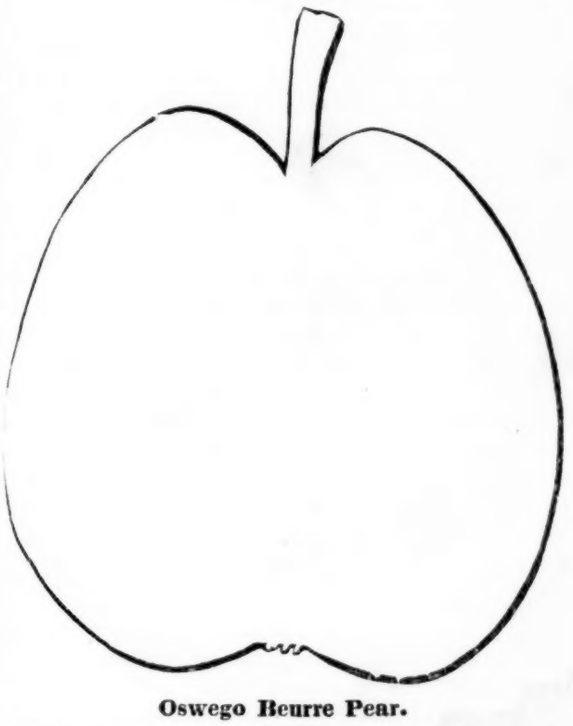
The *selection of varieties* least liable to disease, may also be a useful aid in prevention. From its uncertain nature, and its different effects in various localities, it is hard to point out those the least liable; but from a very limited opportunity for observation, it is believed that the *Seckel, Washington, Summer Francreal, Skinless*, and perhaps the *White* and *Gray Doyenné*, are very rarely affected; while the Madeleine, Bartlett, Genesee, St. Ghislain, Passe Colmar, Dearborn's Seedling, and many others, are frequent sufferers.

Pears and Cherries.

A deep interest is beginning to be felt in regard to the culture of fruit in the vicinity of Oswego, and I know of no business that pays the farmer better. In passing through several counties in this State, I have noticed that the choice kinds are very much neglected, especially the best kinds of the pear. Not one farmer in fifty has a tree, and where there are trees, they are generally of such fruit as is not worth cultivating. On conversing with intelligent farmers on the subject, and asking why they have no pear trees, the answer was that it takes them so long to come into bearing that it was hardly an object to set them out. This is the stumbling-block which should be removed out of the way. I acknowledge there are sorts which require ten to fifteen years to come into bearing, but there are other sorts that bear very young. I have a tree of the Bartlett variety, the trunk of which is only an inch and a half in diameter, that has borne three years, and was so heavily loaded in August, 1847, that it took four stakes to prevent the limbs from breaking. When people see these things they become convinced, and men from fifty to sixty years of age are willing to buy pear trees, and may reasonably expect to eat fruit from them.

As to the blight in pear trees, I have never lost but one tree by it, and that stood in wet ground. I have about four thousand trees from one foot to twenty feet in height, and not a twig nor a leaf has ever been blighted, not even on those that have made eight feet growth in a season. My soil is a rich loam, and my trees are very healthy. I give the soil a top-dressing of manure every year, and plant it with some hoed crop.

Cherries are as much neglected as pears; but I hope to see farmers soon set about raising the finest sorts, for there are now but few, comparatively, but the common red, which, when compared with the best kinds, is almost worthless. In my opinion an acre of land set to fine fruit would yield a greater profit than ten acres of grain. Fine cherries and fine pears will always find a ready sale and good price in our markets. SCHUYLER WORDEN. *Oswego.*



Oswego Beurre Pear.

This is a new pear, raised from seed by Mr. WALTER REED, of Oswego, N. Y., and brought into notice chiefly by Mr. J. W. P. ALLEN, of that place, who has left us some specimens of the variety, which we think fully deserving the high praise which has been bestowed upon it. It is a hardy and thrifty sort, and the tree bears early and abundant. Mr. DOWNING has described it in the *Horticulturist*, as combining "in a great degree the finer qualities of the White Doyenné and the Brown Beurre." Mr. D.'s description of its form and qualities, is as follows:—

"Fruit of medium size, form oval-obovate, regular. Skin smooth, yellowish-green, streaked and mottled with thin russet. Stalk short and stout, set in a bold

and rather deep cavity. Calyx much like that of the White Doyenné, small, closed, set in a smooth, regular basin, which is only moderately depressed. The flesh is in consistency and taste between that of the White Doyenné and Brown Beurré, buttery, melting, juicy, with a brisk, rich, slightly sub-acid and excellent flavor. Core small. Seeds few."

Its season of ripening may be said to be November and first of December; but Mr. ALLEN thinks by attention to early and late picking and proper ripening, "it may be eaten in perfection from the middle of October to middle of January."

Fruit in Georgia and Mississippi.

M. W. Philips, of Mississippi, states in the *Southern Cultivator*, that he was formerly ridiculed for proposing the market culture of fruit; but in four years from that date, one man sold over $2,000 worth of fruit from a few acres—that he has himself sold peaches at 75 cents per dozen, and $11 worth from a tree four years of age. He says he can take ripe to market, by the first of July, peaches of the Early York, George IV, and Red Rareripe; and so on successively, by different varieties, to the middle of October.

Greene B. Haywood, of Casulon, Georgia, in the same paper, says that fine *pears* have been produced at Athens, in that State. The apples found best adapted to that climate, have mostly originated in that State; among the good winter apples, proved there, he describes the *Village Burr*, *Virginia Green*, (keeping till summer,) *Cheese Apple*, *Iron Black Apple*, and *Oconee Greening*. A variety called *June Apple*, ripening in July, contrary to the general characteristic, does not ripen earlier by being moved south. The trees must be allowed to branch low, as the hot sun has already injured such of his young trees on the trunk, as were trimmed high.

Another correspondent in central Georgia, says that the *pear*, but for the blight (which pervades the whole United States) flourishes better than the apple; that the quince thrives finely wherever planted; that plums, nectarines, and figs do well; but cherries, except the Morello, have not succeeded well. Northern winter apples ripen and drop during the latter part of summer, and do not succeed so well as native fruits.

CULTURE OF STRAWBERRIES.

I discover in the magazine of Mr. Hovey, for November, a laudatory notice of his Boston Pine, by Mr. Coit of Norwich, in which it is praised for its strong character as a bearer. In the backwoods, we should deem this a strange recommendation for a staminate, which we only use as an impregnator, and would prefer a plant making no runners, as one so vigorous would soon root all the pistillate plants out. From 1500 to 2000 plants, he raised near a bushel of fruit; a strong evidence of its being staminate, and as we find it not producing perfect fruit on one-tenth of the blossoms in an average of years.

From the same number of pistillates, properly impregnated and cultivated, we often raise from five to eight bushels. My neighbor Culbertson must do this, or he would not take 120 bushels to market in a day. It is strange that staminates should still have their advocates, as valuable for cultivation for their fruit. In some years some staminates bear five times as much as in others, where no increase is found in the pistillates, as every blossom will bear a perfect fruit if impregnated, and not killed by a late frost, or the plants too much crowded to admit of impregnation, which is often the case. Writers should not undertake to speak of the bearing of a plant. from the crop of a single year. Why is it that your nurserymen still advertise large fruited, perfect blossomed staminates, that bear a full crop of perfect fruit? Our nurserymen never do this, but to all pistillates add eight or ten staminates to the hundred, and in separate parcels. A HORTICULTURIST. *Newport, Ky., Nov. 24th*, 1847.

RAISING QUINCES.

A correspondent of the *Horticulturist*, who raises this fruit of extraordinary excellence, pursues the following course:—He selects good, deep, dry, rich soil; which is deepened by a thorough use of the subsoil plow, and manure applied copiously and deeply, by dropping it in the bottom of each furrow as the plowing proceeds. Large and deep holes are dug for the trees; each received half a barrel of good compost; the branches are shortened one half, before setting; and the soil well settled among the roots by drenching with water, before the hole is quite filled. All fruit trees, by the way, should receive this good treatment. He does not lose one tree in a hundred, by this excellent practice.

The pruning is given in autumn, and consists of cutting out, as sparingly as possible, and only old, crooked, crowded, and decayed branches. Every autumn, manure is spread round each tree, and after a light plowing in spring, salt is spread broadcast at the rate of ten bushels per acre. The salt is regarded of very great consequence, but it must be applied in connexion with free manuring every year. The ground is kept mellow and clean by constant cultivation, potatoes, sugar beets, &c., being found well adapted to the purpose. The principal secret of success, it will thus be perceived, consists in cultivating and doing everything in the best manner; while others, who do not succeed, do not cultivate their trees at all.

The writer states that a good crop of quinces may be obtained three years after transplanting, and the trees will continue in a productive state thirty years.

Varieties of Fruit, and Soils of their Origin.

There are some varieties of fruit which appear to be equally good in all places, and in all kinds of soil. Others, in some localities are fine, and in others nearly worthless. It becomes an interesting subject of inquiry in such cases—What was the soil where such varieties originated, and are not similar soils best adapted to their perfection? Very little attention appears to have been given to this subject, and we are in possession of but few facts in proof.

We have noticed the present year that the Imperial Gage, which appears to have originated on the sandy soil of Long Island, has in all cases been fine when grown on sand or sandy loam; but on heavy clays it has been nearly worthless.* The same result has been observed in relation to the Bloodgood pear, which appears to have had a similar origin. On sandy loam it was excellent; on clay it was far inferior to the Skinless. The latter pear is invariably fine on heavy soils, but not always so on those of a lighter character—what was its origin? The White Imperial peach, which first grew on the clayey soils near Aurora, in Cayuga county, N. Y., proves to be on such soils of the highest quality; but, though always fine, it appears not always to sustain the full perfection of its character on sandy loam.

The subject appears to be worthy of further inquiry, and if the supposition is correct, lists of varieties, adapted to soils of different qualities, would be valuable to those planting orchards and gardens.

* A friend informs us that the finest flavored Imperial Gage plums he ever tasted, grew at Troy, the soil sandy loam.

HINTS FOR THE SEASON.

Shelter for Stock.—In providing for domestic animals in winter, the first requisite is *shelter*. It is remarkable that under all climates the temperature of the animal system when in perfect health, is nearly the same—about 100 degrees. This temperature or vital heat, is supported by the decomposition of carbon, which is supplied to the system in the form of food. The greater the exposure to cold, the more rapid is the dissipation of heat from the surface of the body, and the greater must be the internal supply of fuel to keep up the proper temperature. If the amount of food is deficient, the deficiency is made up by a decomposition of the bodily tissues—the fat, flesh, &c.—and the animal grows poor. If the insufficiency of food and the exposure continue, the body becomes more and more emaciated from the loss of its carbon, till at last it is incapable of supplying the quantity needed to support the temperature, and death ensues. By protection from cold, the consumption of carbon is lessened, and hence "warmth is equivalent to food."

But there are other advantages of shelter. Long exposure to wet, though the degree of cold may not be great, is injurious to the health of animals. The continued saturation of the skin with water, prevents the natural exhalations, and tends to induce disease. The fleeces of sheep are known to be much deteriorated from this cause. But if it did not injure the health of the animals, its effects would be prejudicial to the interest of the farmer in another way. It prevents the animals from enjoying that quietude which is necessary to thrift. The connexion between the nervous and muscular system, is such that whatever disturbs the former, sensibly affects the latter; so that the animal may actually grow poor from no other cause than simply being rendered *uncomfortable*. For these reasons shelter—at least protection from storms—is as useful where the cold is not so intense as to freeze the ground to a great degree, as it is in a more northern climate. The dampness and mud in the one case, are as injurious as the greater cold but drier atmosphere of the other.

Feeding Srock.—A man who was noted for the excellence of his working-oxen, once observed to the writer, that he could seldom hire a man who was "fit to drive a yoke of good oxen to water." We think it is quite as difficult to find a man who is capable of *feeding* cattle or other stock in a proper manner. There is generally a great deal of unnecessary waste. Some men will carry stock through the winter with half the quantity of hay or fodder that others will use, and yet the stock which has consumed least will come out in the best order. To feed economically, the animal should have just the quantity he requires, and no more—none should be given to be trampled under foot and left, unless it is intended for manure, without being first eaten. It is best, generally, to feed under cover, in clean mangers; though in dry weather coarse fodder, or that of inferior quality, may be fed in mangers in the barn-yard, or on dry hard ground, or clean, hard snow. Coarse hay, clover and timothy, (herds-grass,) and corn-stalks had better be passed through a cutting machine, and if some bran, shorts, or a little meal can be added, the improved quality of the whole will render it much better relished by the animals, and they will, in their increased flesh or milk, repay the cost.

A good food for work-horses or oxen is cut hay, with from three to six quats of corn-meal per day—regulating the quantity according to the degree of labor to be performed. Oats and corn ground together make a good provender. Moisten the hay, and mix the meal with it it. If the labor is not severe, two quarts of meal with the hay, and the addition of a peck of carrots per day, will keep the horse in good condition. The carrots are good for the blood, and will improve the horse's health. Carrots are also valuable for milch cows—increasing the quantity and improving the quality of the milk.

Rowen hay, or after-math, is most suitable for calves and milch cows, or sheep. It is almost like grass, and will produce nearly as much milk. It is likewise good for fattening animals; but for working-oxen and horses it produces rather too loose a state of the bowels to admit of the muscular exertion which is required.

Young cattle and sheep will be benefitted by a daily allowance of some kind of roots—potatoes, carrots or turneps. The succulence of the vegetables will render their dry food more like grass—the most natural and proper food for such stock. January and February are the best months for disposing of the poorest fodder. While the weather is coldest, the appetite is sharpest, and articles will be eaten which under other circumstances would be rejected.

"Breaking Roads" in Snow, is a business which the farmers of the northern section of the country are frequently obliged to perform. Were it not that this work is generally performed as a frolic, in which the whole neighborhood engage, it would be regarded as very laborious and a great burden. Formerly it was the practice to shovel a track through the deep drifts, and the travelled road was sometimes several feet lower than the snow on each side. But the objection to this was that the first snow storm or high wind filled up the road and rendered it impassable till it was again dug out. The best course is found to be to avoid digging down as much as possible. Some narrow and deep drifts must be dug through to keep the road level, but the principal track is made by *pressing down* the snow. A couple of heavy timbers—round logs are best—are fastened together and held by a cross-bar so as to represent the form of an A. They should be twelve to fifteen feet long each, and be spread at one end to the width of ten feet. A plank may be fastened, edgewise, along the top of each log, which will prevent the snow from falling over and filling the track as the timbers are dragged along. The concentrated strength of all the oxen and steers that can be brought together is to be applied to these timbers, which are to be drawn over the snow to form a road. Oxen are better than horses for this purpose, and will work through deep snow where horses would stick fast. Rather light cattle, if handy, should be put forward, and the snow should not be shovelled except in narrow drifts, as before mentioned. Twice passing with the timbers will make a smooth, hard road. It is customary, in passing the second time, to lay additional weight on the timbers, in order to compress the snow as much as possible. The advantage of this plan is, that by pressing down the snow, instead of digging it out, the travelled part of the road remains so full that the snow does not drift on it—in fact it is sometimes higher than the general surface, because the snow is so hard in the road that it is not blown away, while that which has not been trodden is frequently taken off by wind. It is sometimes difficult to break through a deep snow, and it is best for men to walk along in front of the team, and prepare the way by making their tracks in the right places, levelling the deepest drifts, &c. After a good road has once been made, it is but little trouble to keep it so for the remainder of the season, or till the snow goes off.

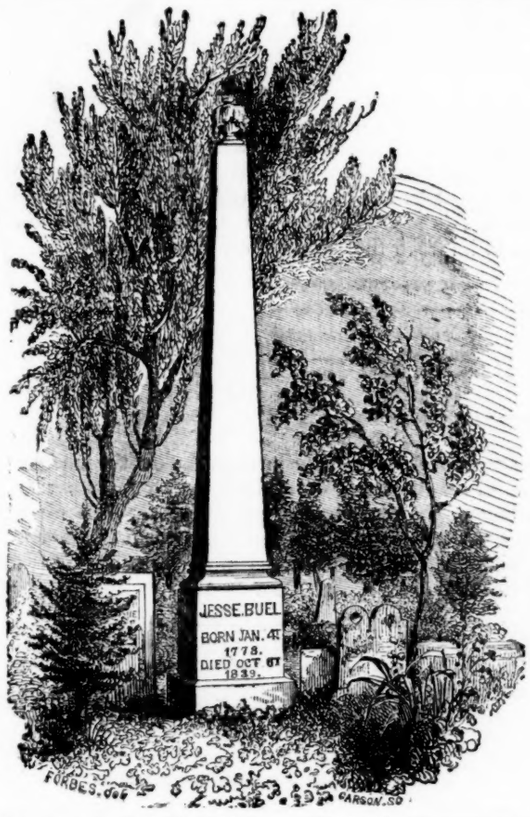
MEMOIR OF JUDGE BUEL.

AMONG many distinguished individuals who may have justly earned the title of benefactors of our country, the memory of none is cherished with more lively respect and gratitude, by the Agricultural community, than that of JESSE BUEL; and though the history of his career may not be new to some of our readers, we are convinced that the deep interest which is felt in one whose life was in so great a degree devoted to the public good, will be regarded as a sufficient reason for presenting the following brief memoir, which we have illustrated with a portrait of the Judge, and a view of the monument erected to his memory, by his family, in the cemetery of the Middle Dutch Reformed Church.*

Judge BUEL was one of the noblest specimens of self-made men. Destitute of even the advantages now afforded by our common schools, he became, by his own unassisted efforts in the attainment of knowledge, one of our most eminent, useful, and honored citizens. Born at Coventry, Conn., on the 4th of January, 1778, he removed, at the age of twelve years, with his parents, to Rutland, Vt., where, at the age of fourteen, he was apprenticed to the printing business. After devoting himself with great assiduity to his trade for four years, he succeeded in buying the remaining three years of his time, and went to New-York, where he commenced work as a journeyman printer. He subsequently worked in this city, and was for a short time at Lansingburgh and Waterford. When in his 20th year, he, in connection with Mr. Moffat of Troy, established the "Troy Budget," one of the few papers of that day which has been continued to the present time. In Sept., 1801, he removed to Poughkeepsie, where he and Mr. Joiner, commenced a weekly paper called "The Guardian." This paper was continued but a year, when he formed another co-partnership, and commenced another weekly paper called the "Political Banner." This proved an unfortunate concern; and in about a year, through the mismanagement or dishonesty of others, involved him in total bankruptcy. Nothing discouraged by his misfortune, he pressed onward, and as early as 1803, we find him once more located, and establishing another journal. This was "The Plebian," at Kingston, Ulster county. Here he resided for ten years, and by his industry and frugality, succeeded in retrieving his losses, and acquiring considerable property. During his residence at Kingston he held, for several years, the office of Judge in the Ulster county court. In 1813, having become favorably known as an editor, he was induced, through the influence of Judge SPENCER, to remove to Albany. Here he established the "Albany Argus," and the next year, 1814, was appointed State printer, which office he held till 1820, when he sold out the Argus, and retired from the printing business. Through all this period, his industry, application and study, were unremitting. "It is worthy of remark," says Prof. DEAN, "that while engaged in this business, he always performed, himself, the labor essential to its successful prosecution. He was always the setter of his own types, and until he came to Albany, the worker of his own press."

But it was as an agriculturist, and by his efforts to improve the condition of the agricultural interest of the country, that JUDGE BUEL became pre-eminently useful. He very early in life manifested a deep interest in rural pursuits, and while editor of the Plebian at Kingston, and of the Argus at Albany, frequently devoted a column or two of those papers to agricultural and horticultural affairs; and on his retirement from the latter paper in 1820, he determined to devote himself to those pursuits. That he might the better ex-

* The New-York State Ag. Society, proposed to the family of Judge Buel, last year, to purchase a lot in the new cemetry on the Troy road, and to remove the remains and the monument, to that beautiful burial place; but the proposition was declined, they preferring to have them remain in the family cemetery.



hibit the effects of intelligence in the improvement of the soil, he purchased, in the vicinity of this city, a most forbidding tract of land, from which to make a farm. It was a part of what was known as the "sandy barrens," lying between Albany and Schenectady, and has been described as "an open common, covered with bushes; and appearing as if doomed to everlasting sterility."

Judge BUEL, however, being satisfied that this unpromising soil was capable of being rendered productive and profitable, immediately proceeded, with the intelligence and judgment which he brought to bear on all his pursuits, to improve it by fencing, clearing off the brush, draining, manuring, &c. He erected buildings, and established his residence here. In the course of a few years, the place, from having been positively repulsive, from its barrenness, became noted for its general fertility, and especially for its very fine orchard of various fruits, and an extensive and well managed nursery. While engaged in these improvements, he devoted his leisure hours to the advancement of his favorite pursuit. He officiated for two years as Secretary of the old Board of Agriculture, and the last two volumes of its "Memoirs" were prepared by him. He also republished from the columns of the Argus, a Treatise on Agriculture, which had been written at his request, for that paper, while edited by him, by his friend Gen. ARMSTRONG of Dutchess. As another means of advancing the improvement of his favorite pursuit, he issued a number of Agricultural Tracts. He was also a frequent contributor to the old "American Farmer," the "New England Farmer," and the "New-York Farmer," the only agricultural papers published in this country previous to 1830. On the establishment of the old "Genesee Farmer," by the present proprietor of "The Cultivator," Judge B. became one of its warmest friends, and for nearly two years, previous to the establishment of "The Cultivator," was a weekly contributor to the editorial department of that paper. These papers, however, at that day, had but a limited circulation; and he wished to adopt some mode by which the benefits they afforded might be enjoyed by a much larger number of our farmers. After consultation with the few who then took an interest in the subject, the plan of "The Cultivator" was determined upon—a plan which has resulted in immeasurable good to the country.

"THE CULTIVATOR," as many of our readers are aware, was commenced under the auspices of the New-York State Agricultural Society, at the low price of 25 cents per year, Judge BUEL having volunteered to edit it without charge for his services, and the late Patroon, the Hon. STEPHEN VAN RENSSELAER, and the late JAMES WADSWORTH, Esq., of Geneseo, having pledged themselves to pay whatever expenses might be incurred in the publication, over its receipts, for one year; for no one anticipated that the sales of the paper would pay the expense of the publication. But so nearly were the accounts balanced at the end of the year, that Judge BUEL, at the request of the Society, paid the bills and took the establishment into his own hands, and gradually enlarged the paper, and increased its price to $1 a year. He continued to conduct it, with increasing usefulness to the public and honor to himself, till his death, which occurred suddenly on the 6th of October, 1839, at Danbury, Conn., while on his way to New Haven, to deliver an Address before the Agricultural Society of that county.

In addition to the works already enumerated, Judge BUEL was the author of the Farmer's Companion, a work written at the request of the Massachusetts Board of Education for the District School Libraries of that State, and the Farmer's Instructor, 2 vols., prepared for Messrs. Harper's series of books for the District School Libraries of this State. The productions of his pen secured him a wide reputation at home and abroad, and he was elected an honorary member of many distinguished societies in this country and Europe.

Judge BUEL adopted as a motto for "The Cultivator"—"TO IMPROVE THE SOIL AND THE MIND;" and while he was indefatigable in his exertions to carry out the first object suggested, he never for a moment lost sight of the latter. He was an earnest advocate for SELF-INSTRUCTION, a noble example of which was presented in his own attainments. In obtaining the large fund of knowledge which he possessed, he was not even aided by the advantages of a common school education, having never attended school but six months. His views in regard to the improvement of "the mind," through the medium of publications, are expressed in the following extract from the first number of "The Cultivator:"

"TO YOUNG MEN we would especially appeal. You are destined soon to occupy the stage of public action, and to fill the important stations in society. *Now* is the time to *prepare* for these high duties, as well as for profit and distinction in your business. Your characters are but partially formed, and are yet susceptible of receiving good or bad impressions, which are to last through life. It is important to you, to your friends, and to society, that these impressions should be for good. We will lay before you rules and examples of the wisest and best men, to aid you in the formation of your characters—to enable you to become intelligent and successful in your business,—useful and respectable in society,—and beloved and happy in your families. Do not object that you have no *time* to read. Few young men labor more hours than did Benjamin Franklin, or are more humble and self-dependent than he was in his youth; and yet Franklin found abundant time for self-instruction; and so indefatigable and successful was he in his studies, that he became one of the most useful and celebrated men of his age. We need not limit the remark to Franklin: most of the distinguished men of the day have risen from humble stations by their own industry and frugality, and have

acquired a great share of their knowledge in the hours not allotted to ordinary business. Your winter evenings are your own, and may be applied usefully. They may be computed at one-fourth of the day, or one entire month in a year. Time is money: and the young man who appropriates this month to the acquiring useful knowledge, does more to add to his future fortune, to say nothing of his intellectual wealth, than if he received pay for this month, and loaned it upon interest. Knowledge is in another respect like money: the greater the stock of it on hand, the more it will administer to the respectability and enjoyments of life. But knowledge is not to be acquired without exertion, nor is anything else that is useful in life. It is the labor we bestow in acquiring an object that imparts to it an intrinsic value. It has been well said, that 'although we may be learned by the help of others, we can never be wise but by our own wisdom.' It is the humble design of this monthly sheet to excite a laudable ambition to improve the mind as well as the soil."

THE FARMER'S NOTE BOOK.

Transplanting Large Trees.

In the spring of 1846, I determined on the removal of an elm tree that flourished in open grounds on rather wet soil of muck and clay. I chose a tree standing in this situation, believing there would be no tap roots to hinder raising it to the best advantage, and knowing by experience that the removal of the great majority of the different kinds of trees from low wet lands to those high and dry, does not retard the growth provided proper caution is used in transplanting.

A tree that is to stand out exposed to the winds and sun, like an elm, should be selected in the fields, where it has formed a natural low top and stout trunk, and where a vigorous growth of roots is attached, especially if the tree be large, as this was—one foot in diameter at the butt, and about twenty-five feet in height.

A trench was dug about three feet deep around the tree, three feet from the body, cutting off all the roots that reached the ditch, leaving a spot of earth for the tree to stand upon of seven feet in diameter. The soil was all returned to remain through the season, that new and vigorous roots should spring forth in abundance to supply the wants of the tree. Last spring, in throwing out the earth again carefully, we found that new roots had appeared in all directions. After excavating well under the tree, it was easily upset by the aid of oxen and chains, attached to a limb that we designed to amputate, and cared not if the bark was marred a little. The earth was removed from the under side by bars and picks, which reduced the weight, as we judged, to about two tons; the diameter of the mass was seven feet, and over twenty inches in thickness. After rolling it on to the centre of an ox sled, the limbs extending backwards, with a stone-boat well secured under that part of the top which was most exposed, it was removed to a loamy soil on the church common, where a solid rock underneath laid within twenty inches of the surface. The tree was very easily uprighted, the top being much the lightest; a small portion of the ends of some of the limbs were cut off, and a few removed entire. We were careful to crowd earth and small stones under the roots into every unoccupied spot. The tree was not set so low by about eight inches as in its natural state, but after spreading around the tree the loose soil, and then about two tons of stones, it was able to take care of itself, as it proved to have received but little check, though the summer was dry and hot.

The advantage of placing stones upon the roots, is to hold them firmly down, that they may not be acted upon by winds. These, with a load of chip manure, which was cast upon the stones, kept the earth moist and cool. The roots of the elm extend to a greater distance than those of most of our forest trees. In transplanting they are generally not well preserved, which is the reason of so many failures with this, the most beautiful of all the trees of America. By clipping off a portion of the roots in the spring, previous to moving, as in this case, the life of the tree is insured, and it is given one or two years' start in growth. S. W. JEWETT. *Weybridge, Vt., Dec.* 1, 1847.

Fall Plowing.

November is the best time for plowing lands that are to be planted the next spring. I am aware that I am on the borders of controversy in making this statement; but it seems to me that the following advantages arise from the practice—

1st. At this season the team is stronger, and the weather more favorable for breaking up grass land, than in the spring.

2d. As the spring of the year is the most hurrying season to the farmer, it is a great help to him to have the plowing done the fall previous.

3d. In turning the land over so late in the season, nothing green starts up, and the frosts of winter immediately following, the grass roots are *killed*—the surface also, exposed to the action of the frost, is mellowed, and in the spring the land will be divested of every living thing, and crumble down before the harrow as fine as a garden bed. The labor in planting and weeding the corn and potatoes is considerably lessened by this means.

4th. The winter arrangements of the worms are entirely reversed. I speak particularly of the cut-worm, my land not being infested with the wire-room.

Fall plowing on my land is a complete remedy for the ravages of the cut-worm. Contrary to usual practice, a small field, about one and a half acres, was broken up last May and planted to corn. In planting, I noticed that there were great numbers of small cut-worms in the land, and took the hint at once that there would be trouble in due time. By the time the corn was up, the worms were ready for operations, and although we went over the field three different times, destroying all that could be found, they still got the mastery, and at weeding time not one hill in two hundred was left standing. The field was replanted to the small, early Canada corn on the 15th of June, being careful in planting to kill all the worms that could be found. Two days after this, two men destroyed between 5 and 600 of these worms in an afternoon on the same field. The cut-worm does not usually work in corn-hills after the 20th to 25th of June, and as the second planting did not come up till after the 20th, it stood well. Twice as many hills were planted in the rows as were planted originally of the larger corn, and I harvested this fall over 80 two-bushel baskets of ears of ripe, sound corn from the field. The crop was rather too expensive; but as the land was very well

fitted in the way of manure, I was determined not to be beaten by the worms if hard fighting would do any good. The remainder of the field, left in grass, seemed to be full of these worms, as I ascertained by striking in the hoe in a number of places; and I supposed at the time that the crop of grass would be materially injured by them. On the contrary I could not discover that it was, the swaths being stout and heavy at mowing time.

I have taken the precaution to plow the remainder of this field *nine inches deep* this present month, and fully expect by this means to save myself from a like mishap next spring. F. Holbrook. *Brattleboro, Vt., Nov.* 15, 1847.

Culture of Madder.

Having heretofore presented to the public, the way to plant and cultivate madder, I have thought best to give, as near as I could ascertain, the expense of raising and fitting for market one acre of madder:—

Cost of the seed, which is the upper part of the root, would be,	$15 00
Plowing and planting,.....	5 00
Tilling each season, $5 for each season,.....	15 00
Digging one acre,.....	20 00
Washing, drying, and grinding,.....	25 00
Interest on the land, $7 per year, four years,.....	28 00

An acre of Madder, planted in the old way, would yield at four years' old, from four to five thousand lbs. of merchantable madder, which, at $16 per hundred, would amount to from six to eight hundred dollars.

I have one acre planted on raised hills, as recommended in the February number of the Cultivator, 800 hills to the acre. I dug one hill of the piece this fall, an average hill, which had been planted 17 months or two seasons; the roots obtained from this hill, after having been washed clean, and the water dried off, weighed 17 lbs., which, allowing 5 lbs. of green roots to make 1 lb. of ground madder, the above would, if dug this fall, yield 2,720 lbs. of ground madder, which, at $16 per cwt., would bring $435.20. Madder planted the old way generally gains 100 per cent. the third season, which, if the above-named acre should do, it would next fall yield 5,440 lbs. of ground madder. The fourth season it has generally gained 60 per cent. when planted the old way.

I am much pleased with the new method of planting with raised hills. I have no doubt but more madder can be raised by this method of planting in three years, than by the old method in four, from the same ground.

If any gentlemen interested in the madder business (should doubt my statements, or would like to obtain information respecting the business,) will call on me, I will satisfy them of their correctness, and give them any information necessary for the cultivation and preparation of madder for market.

You may expect to hear from me once a year about the madder business, if my hand is able to write. James Eaton. *West Winfield, Herk. Co., Y. Y., Oct.*13, 1847.

Making Shingles by Machinery.

A correspondent with the signature of "Reader," writes us from Kent, Conn., in regard to a process of making shingles by machinery. He states that by the mode which he describes, timber which was formerly thrown away as too winding for making shingles by the old process of riving, can be worked up almost as well as straight-grained timber. The first thing is to construct a vat for the purpose of boiling or steaming the blocks, which are previously sawed the length required for the shingles, and quartered. "Let the blocks be thoroughly steamed or boiled through by means of flues which should be placed in position to heat the water in the quickest manner." The apparatus for cutting is described as follows:

"The machine for cutting is of simple structure, easy to be kept in repair, and requires but a moderate horse or water power to work it. It consists of a gate of cast iron weighing about 100 lbs., to which two knives are attached in such a manner that two shingles are produced by each descending motion of the gate, which slides in vertical grooves. Each shingle is produced in as perfect a form as can be made, being jointed at the same time they are cut, and the edges made parallel No inconvenience arises in laying the shingles on a roof—they do not *run*, as it is called, and they are free from *skakes and splits*. The smoothness of surface is another item which makes them superior to *sawed* shingles for carrying off water. The process of steaming improves the texture of the timber, and when the shingles become dry, the wood is more compact than if seasoned in the ordinary way. In the old method, one-half at least, of a good shingle tree was thrown away as useless, or only to be used as firewood; by the improved process, double the amount of shingles are produced, and at a great saving of expense. The expense of the machine is about $50."

We understand that further particulars can be learned by application to Eben S. Peters, Kent, Litchfield county, Connecticut.

Sheep—Weight of Fleece at Different Ages.

Will some one give information as to the usual difference in weight between the fleeces of old and young sheep. I have kept an account of the weight of the fleece of one Merino ewe, for seven years. The result is as follows: At one year old, she gave 4 lbs. 8 oz.; at two years old, 4 lbs. 13 oz.; at three years, 5 lbs.; at four years, 4 lbs. 12 oz.; at five years, 4 lbs. 6 oz.; at six years, 3 lbs. 13 oz.; and at 7 years, 3 lbs. 3 oz. The average result from a number of sheep might be quite different. But should it be similar to the above, it would seem unprofitable to keep sheep longer than until four or five years old, except perhaps individuals of superior excellence, as the wool degenerates in quality as well as quantity. H. C. B. *Otsego Co.*, 1847.

Construction of Ice Houses.

Having in the course of thirty years had more or less acquaintance with ice-houses, I propose to make some remarks, through the medium of the Cultivator, in regard to their construction. I am led to do so at this time by an article with plans, &c., in your November number.

I have known many plans for ice-houses, varying in expense from a sum that would build a comfortable farm-cottage down to, and seldom less than fifty dollars. When my father removed to this country, about forty years ago, he found an ice house upon the place. It was built, or rather dug out of a side-hill. It was a hole eight feet square and sixteen feet deep, in gravel and sand. The sides were planked up and kept in their places by three cross-planks or batteries, one at bottom, another at top, and one half-way between the others. These cross-planks kept the sides from falling in. The roof was formed of joist, setting on two sides of the pit, at the surface of the ground, and meeting at the top. These were roughly cross boarded, and over all was a thick covering of thatch. The gables were boarded up with about as much care as is taken in boarding ordinary barns, leaving a hole five or six inches in diameter in each end. When this place was to be filled with ice, a thick bed of clean straw was laid over the bottom, and bunches of straw were opened and placed around against the sides. As the ice

was thrown in, it was broken into small pieces with a large mallet, and as the hole was filled the lining of straw was carried up to the top. The ice was heaped up as high as it would lie in the middle, and during cold weather it was left exposed, and quantities of pure spring water repeatedly thrown upon it, that it might become as far as possible one mass. As soon as the weather began to moderate, the whole was covered with straw, the door was closed and locked, and the ice left till wanted.

This ice-house was surrounded by trees, but after a few years they were removed because the shade occasioned dampness. We used a great deal of ice—indeed we never thought of economizing it—but I never saw it fail. The house was much larger than is necessary, and being near a large city, where timber was scarce and dear, it was much more expensive than is generally needful, yet it cost much less than most I have seen since. I am now convinced that this is the true plan of a cheap ice-house, and every farmer can make one for himself—of logs, slabs, and straw—the only article to be purchased being one pound eightpenny nails.

Ice-houses above ground are well enough for ice-companies, where large buildings are wanted to contain large masses of ice. The greater the mass, the less in proportion is the surface exposed. But ice-houses above-ground will never answer for *small* concerns, and they are quite too expensive if they would.

Within a few years I wanted an ice-house on my farm; and as I am so unfortunate as not to be able to live on the farm, and can only visit it a short time once a year, I have to entrust operations of this kind to others. Various schemes were tried; first, it was resolved that the building should be *here*, because convenient to the house; next, that it should be *there*, because out of sight; but in digging down they came to a rock, and then thought it was deep enough. My attention was attracted by a neat, small, stable-looking frame structure, the outside painted. On opening it, I found it double-sided and filled between with cut straw, well packed in; it had double doors, and a loft to stow away empty casks, and to deposite tools when not in use, &c. I was told that this was the new ice-house, and that it had been well filled. Perhaps it was not properly constructed; but whether so or not, or whether it had ever been *well* filled, *there was no ice there on one of the last days of July.*

I now took the matter in hand myself, and directed that my orders be implicitly followed. I selected the site—a fine sandy and gravelly side-hill, close by a pure and beautiful stream. The size of the ice-house being about six feet square by ten feet deep on the lower side—the materials common logs, notched together at the corners—holes as above for free circulation of air in summer, and no shade over the thatch—the cost limited to ten dollars. But the work did not cost near that sum, and the blocks of ice were dragged over the snow from the river to the house door without ox or horse or cart. The next summer I never wanted ice, and I found the only mistake was, putting the magazine so convenient to my neighbors that it was no fault of theirs that I had it.

The experience of a near relation is just the same. He placed his ice-house on a knoll in the middle of a pasture lot, far from any shade. It is larger than mine, and he painted the sides above ground, and roofed it with shingles; thus making it more expensive, but not better, if as good as mine, and certainly no more durable. His family is literally prodigal of ice—a wheelbarrow full at least being brought to the house every day, and plenty given to every one that asketh it.

Ice is one of the best medicines in cases of fever, and no family should be without the means of procuring it in case of need. I have known instances of cures by the judicious use of ice in desperate cases, and iced drinks and ice kept in the mouth when permitted by the physician, are great comforts and alleviations at least. C. C.

N. B.—Always keep the ice well covered over with clean straw.

Western Wool.

There are some very fine flocks of sheep at the West, especially in Washington county, Pennsylvania, and Ohio and Brooke counties, Virginia, and several counties in Ohio. There is a peculiar softness and felting property in the fibre—and the best wool of the West is sought after with great avidity by the manufacturers. It not only readily sells, but also for fair, remunerating prices. The sheep from which the best wool is taken are small, and generally show rather feeble carcase and constitutions. The breeders of fine sheep at the west seem to have committed the same error with the breeders of the early Saxons—gone for fineness, regardless of size of carcass and strength of constitution. This error can be retrieved and must be, or the fine flocks of the west will be lost to the country. This must be done by crossing with the larger, stronger constitutioned, and almost equally fine rams of the *best* flocks of the East. The finest of the Rambouillets—and some of the choicest and heavy shearing rams of the Eastern Saxons would be admirable crosses with the fine wooled sheep of the best flocks of the West. The time is at hand when the opportunity of making such improvement will be given to the West. A large and splendid flock is now being concentrated near Vanceburgh, Kentucky, on the fine land for sheep husbandry of that portion of the State. I understand, also, that a gentleman in Wheeling is about to establish a flock of sheep, gathered from the East, in his neighborhood. B.

The Last Wheat Crop in Michigan.

Our crops here have been good this season, and prices fair. My son's wheat last year averaged thirty-four and a half bushels to the acre. This year his and mine together averaged thirty bushels and one pound to the acre, notwithstanding the unusual severity of the winter. This quantity is rather above the average of the farmers generally in this vicinity. Much depends on the manner of getting in—the time—the kind of wheat, and quantity put on the acre. We use a trifle more than one and a half bushels, and think we shall increase it to one and three-fourths to the acre. Our time is from the 8th to the 20th of September, and we use the *Soule's* wheat only, having carefully noticed, since its introduction here, that it has stood the rust and winter better than any other variety. AUG. FINNEY. *Hudson, Lenawee Co., Mich., Nov.*, 1847.

Vineyards of France.

MESSRS. EDITOR—Your correspondent, Ik. Marvel, gives us some marvellous information, when he informs us that in the best vineyards of France, "but little attention is paid to the variety of grape cultivated, as the quality of the wine depends less on the kind of grape, than the exposure." Such is not the fact. The quality of the wine depends more on the skill and care in manufacture, than soil or exposure. Many vineyards lose their reputation by a change of owners, and others whose wines for years had no reputation, and were disposed of at the lowest price, have in a few years attained the first rank. Some of the best vineyards in France are fully exposed to the North. With us, each variety of grape, be its location and exposure

what it may, produces a wine readily distinguished from all others. In some seasons, a northern exposure ripens the fruit better than a southern one. The aroma and flavor of the Catawba is the same in every soil and exposure, and the quality chiefly depends on the manufacturer. The pure juice, without sugar, spirit, or other addition, yields the best wine. The manufacture of butter is plain and simple, yet not one housewife in twenty makes it of the first quality. The same is true of the manufacture of wine. A VINE DRESSER. *Cincinnati, O., Nov.* 12, 1847.

Large Crops.

In a late excursion at the West, I noticed from time to time, short paragraph accounts of large crops of corn, and other products, in the valley of the Ohio.

For example:—In the notice of the annual fair of the Washington Co. (Ohio) Agricultural Society, J. W. Dana, Esq., of that county, is said to have raised a crop of corn, amounting to about 145 bushels to the acre—and in Butler county a gentleman is said to have raised 175 bushels of corn to the acre.

Will Mr. Dana, with whose farm we are somewhat acquainted, give us, and the public, through the columns of the Cultivator, published at Albany, a brief and luminous account of his method of preparing and tilling the grounds on which he raised this crop? Corn being a great staple production over the country, and especially over the Ohio valley, Mr. Dana will be rendering a special service to the cause of agriculture, by giving us his method of cultivation.

I would also respectfully ask other growers of large corn crops in the west, to communicate also with this paper—inasmuch as the Cultivator has a wide circulation over the country. B.

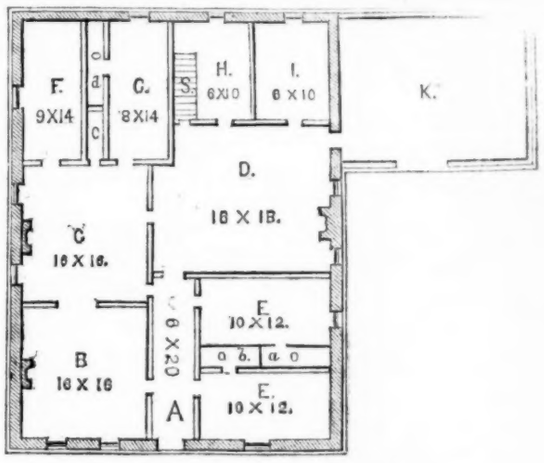
[We know Mr. DANA and his farm, and should feel greatly obliged if he would comply with the suggestions of our correspondent in relation to his corn crop.

Improvement in the Preparation of Paints.

The perishable nature of paints, and their failure to afford protection to buildings but for a short time, has latterly been a subject of much complaint. Mr. RICHARD DALLY, claims to have discovered a remedy for this difficulty. He states that one cause of the failure, is the adulteration of white lead and colored paints, by the sulphate of barytes. Pure white lead, however, he states, though "admirable for every purpose of interior decoration and ornament," is unfitted to stand exposure to the weather, and when thus exposed, rubs off like whitewash. Mr. D. says—"At the suggestion of an aged and experienced painter, Mr. Henry Roome, the subscriber was induced to make an experiment twenty years since, and from its remarkable preservation, in comparison with painting as generally performed, (the principles having been corroborated by recent discoveries in chemical science,) he can promise a degree of durability to all paints exposed to the weather, that shall place the art of house-painting in a much more favorable light than ever before—for singular as it may seem, most of the operations of the painter have hitherto been the result of accident, and not of any fixed principles."

He also states that by the application of his discovery, black, yellow-ochre, Venetian-red, and Spanish-brown, will be rendered nearly indestructible, "and will continue for a generation unaffected by atmospheric action, thereby furnishing ample protection from the weather for expensive steeples, rail-road and other bridges, roofs, fences, &c."

We are informed that paints and oil, prepared by Mr. DALLY's mode, are for sale at the corner of Burling slip and Pearl-st., New-York.



Plan of a Farm-House.

MESSRS. EDITORS—I send you another ground plan of a cottage, in which I think three things, very desirable for farmers in ordinary circumstances, are attained, viz., sufficient room, convenience, and cheapness. The size is 46 by 34 feet. *A.* represents the front hall, 6 by 20 feet; *B.* the parlor, 16 by 16; *C.* the family room, 16 by 16; *D.* the kitchen, 16 by 18; *E. E.* two bed-rooms, 12 by 10 each, including the clothes presses *o. o.*; *F.* the family bed-room, 14 by 9; G. the young children's bed-room, 14 by 8;—young children should always sleep near their parents, on account of sickness and sudden calls in the night;—*H.* store-room 10 by 6; *I.* pantry or milk-room, 10 by 7; *K.* wood-house; *c.* china closet for the family room; *o.o.*, clothes presses; *S.* chamber stairs. In the above plan there are no unnecessary doors, and every room is convenient for the business to which it is appropriated. The two bed-rooms opening from the family room may be sufficiently warmed in winter by opening the doors a short time, and the good housewife can oversee the affairs of her family and kitchen without taking many unnecessary steps. The kitchen is near to the front door, the family room, the store room, pantry, and wood-house; and as to fire-places or stoves, these must be left to every one's wishes. I have designated a place for stairs, thinking it would be well to have at least a floor laid over the chamber, for such places are always applied to some use. Occasionally and for temporary purposes, if more room be wanted, a bed may be put into the parlor.

The Cost.—Such a cottage as the above, built of brick and completely finished, with a cellar under the whole—the walls to be 8 inches thick and 12 feet high, and ten feet between joints—can be built in Buffalo for $800. H. A. P.

The Wood Plow.

I was intimately acquainted with JETHRO WOOD for nearly thirty years, residing within five miles of him during the whole period in which he was engaged in improving the plow. In the early part of 1812, I tried to procure one of Peacock's, near Philadelphia, but failed; and on my return, I spoke of my disappointment to him, when a long conversation on improvements in the plow ensued. From that time the subject continued to claim his attention. In 1814 he obtained his first patent, the specifications for which I drew. The chief improvements (if my memory is correct,) consisted in the superior *shape* of the cast-iron mould-board, and a *small wrought share*, fastened on with screws. I had one of the first that was made, *probably* before it was patented.

To understand the importance of these improvements and of those which followed, it may be necessary to

learn how farmers had to manage in early times; and for this purpose I give an extract from THE PLOUGH BOY of 1821, vol. 3, page 5, with some *verbal* alterations:

"Ten years ago, the farmers of this town were satisfied with the Bull plow. They thought it superior to every other among roots and stumps. It was easily drawn back when it got fast, for it generally had no coulter; the share but little slant, and a short nose.

"Hard gravelly ground however, soon dulls a plow share. Many of us had to go far to a blacksmith's. While we were gone, the team was idle at home. When we arrived the shop floor would be partly covered with plow shares, but *first come, first served,* was the rule. From one-fourth to half a day was often lost in this way. But this was not all our trouble. The share sometimes came back in a different shape—it no longer ran like the same plow. It often had too much or too little *pitch,* and the share warped in hardening. A load of dirt fastened on it," &c.

Such was the state of things when JETHRO WOOD introduced his plow. Its *permanent shape,* and *cast-iron edge,* wrought a total change in our condition, but not without great opposition for a time. He told me that all his friends, (with one or two exceptions,) endeavored to discourage him from trying "pot-metal!" And the same opinions were prevalent when he proposed to dispense with the old sheath or standard, and substitute a projection from the upper edge of the mould-board, to pass through the beam. His language to me at that time was, "I intend to make it as simple as a skimming dish." For this improvement alone, (whether it pass through or be fastened under the beam) his name should be immortalized, and no candid person can deny him extraordinary merit, when he considers that every plow, down to that time, had been encumbered with a heavy sheath of wood or wrought iron—expensive, and liable to get out of order.

In his first patented plow, nearly a dozen screws were employed; but in that of 1819, not a screw was seen; and the plowman was rendered independent of the blacksmith—avoiding long bills and great loss of time.

The exercise of mind, and amount of labor to perfect these improvements, can scarcely be appreciated by those who have not been engaged in similar pursuits. It was a new field, and everything had to be learned by experiment. To discover and procure the best materials for patterns, as well as to prepare them, employed him for a long time; and most men would have shrunk from the difficulties that met him at the foundries. Often he had to overcome the awkwardness or unwillingness of the moulders by presents, or by showing them how to succeed with his own hands.

I am satisfied that all his patented improvements were inventions of his own—originating in his own mind; and to avoid encroaching on what others had invented, he had every volume within his reach that treated of plows, (including several Encyclopedias,) carefully examined for that purpose.

To JETHRO WOOD'S name belongs the honor of rendering the plow that *cheap* and *efficient* instrument that we now find it—enabling us to cultivate our fields at less than a quarter of the former expense, and saving millions to the country. DAVID THOMAS. *Greatfield, Cayuga Co., 12 mo. 10, 1847.*

House-Feeding Sheep.

Richard Simeon, Isle of Wight, England, has very successfully practiced stall-feeding sheep for several years, one house containing 140 stalls, the other 150.

The stalls should accord with the size of the sheep, it being essential that they should not be so large that the animal can turn round and dirty the trough. Each sheep is confined by a leathern collar, attached to a slight chain, furnished with a couple of swivels, sufficiently long to secure comfort to the animal, but not long enough to hang back beyond the division of his stall, and to interfere with his neighbor. A feeding trough is placed at the head of each sheep, divided for turneps at one end, and chaff, meal, &c., at the other, and a small rack for clover above. A cast-iron trough to every two sheep, is supplied with water by a stop-cock from a common cistern. A manure trough, two feet wide and deep, made of brick and water lime, and covered with a wood grating, receives the manure, the sheep standing in rows back to back. This needs cleaning once in ten weeks. Shutters to the stalls regulate the amount of fresh air in cold and mild weather. The manure is of the richest quality, equal to guano. The sheep are healthy, and thrive fast, gaining usually two and a half pounds per week, often three pounds, and in some rare instances a pound a day.

These advantages could not be less in our severer winters. These facts were stated in the Gardener's Chronicle.

Farming on a Large Scale.

According to a statement of S. S. Griscom, in the Farmer's Cabinet, the farm of R. R. Bolling, below Richmond, Virginia, consists of 7000 acres of excellent land; 2,700 acres are under cultivation, all having been limed, and enormous crops of clover turned under at every plowing for a crop. The wheat-field has 910 acres, about 20 bushels per acre. There are 545 acres in corn, estimated to average 30 bushels per acre. All the buildings, barns, stables, &c., are of the best construction, and in the most perfect order, and the best management and strict economy are maintained in the manufacture of manure. A spacious barn is furnished with a steam-engine, working a saw mill for the use of the farm, a mill for grinding corn-meal, another for grinding plaster,—and threshing machines capable of cleaning out about 1000 bushels per day. While the writer was there, they averaged 800 bush. wheat per day, threshed, cleaned, and put in the granaries—yet so large is the crop, that nearly a month is employed at this rapid rate, to thresh the whole. The threshers are on the second floor, from which the wheat falls into the fans on the floor below; it is then taken by elevators to the third story, where it passes through screens, and then into the bins, almost without any assistance from manual labor. A cupola surmounts the barn, in which is a large clock, with four faces, so that the time can be seen from nearly all parts of the farm, and the bell which strikes the hours can be heard much farther.

The proprietor offers very liberal terms to northern men of enterprising, industrious, and virtuous habits, to purchase and settle upon his lands.

Sound Views.

Dr. P. CRISPELL, in his address before the Tlster Co. Ag. Society, makes the following sinsible remarks in relation to the necessity of understanding the principles of agriculture, in order to prosecute farming successfully.

"The time has been that a man was ridiculed if he attempted by education or by study, to prepare himself for attending to his farming scientifically. It is a fact which need not be disguised, that by many, the book farmer, as he is sneeringly called, is looked on with contempt and ridicule. It seems to be the opinion of those who are opposed to education on this all important subject, that farming is simply plowing, and reaping; and that manual labor is the main and almost only element that is required to make the farmer.

But this is far from the truth. To be a farmer, who shall be most profited by his farming operations, it is necessary that he shall well understand his business. There is no calling that requires more the exercise of discriminat on, reasoning and calculation, the comparison of cause and effect, than does that of the farmer."

"But he thinks it important the farmer should know how every kind of labor required on his farm should be performed. The advantage of this is obvious; for it will in many cases be difficult to have work properly executed, unless the farmer is capable of practically showing how it should be done. Dr. C. remarks—"It is as necessary for the farmer to know how to hold the plow, to sow the seed, and how to do all the work on the farm, as it is for him to be scientifically acquainted with the condition of his soil. It therefore becomes the duty of the farmer to teach his sons to do all that will be required of the farmer as a laborer to do, and not only to do for the purpose of saying it is done, but to do it well, for by doing work well the greatest benefit will result from it."

Productive Small Farm.

The Cooper farm, near Bushwick, Long Island, according to the committee of the New-York Farmers' Club, consists of only 30 acres, the proprietors being young men, who came in possession only a few years ago, when the land was very barren. With the help of four men, and additional help in picking time, they have the past season supplied New-York with the following articles:—

342	bushels	peas in pod,	yielding	....	$256
1000	"	potatoes,	"	....	687
1200	"	tomatoes,	"	....	600
1200	"	bush beans,	"	....	528
					$2071

In addition to the above, there remained unharvested at the time the report was made—

500 bushels potatoes, by estimate,
4000 poles thickly covered with Lima beans,
4 acres corn,
1½ acres Blue-top turnip,
1½ acres cabbage, 5000 to the acre,
Hay for all their stock,
1-20 acre Cayenne pepper, estimated 25 bush.,
Also, 75 bushels wheat.

Horses of Speed and Bottom.

The *National Intelligencer* furnishes an account of the extraordinary performances of some Californian horses used by Col. FREMONT in traversing a section of Upper California. It is stated that Col. F., with two attendants, performed a journey of eight hundred miles in eight days, including all stoppages and nearly two days' detention. Each of the party had three horses, nine in all, which took their turns under the saddle. The six loose horses ran ahead without bridle or halter, and were kept to the track by the riders. When a horse was wanted for a change, he was caught with the *lasso* thrown by one of the men, the saddle and briddle transferred to him, and the other horse turned loose. This change was made at distances of about twenty miles. The usual gait was a sweeping gallop. The way was over a mountainous country, much of it uninhabited, and many defiles to pass. They travelled at the rate of one hundred to one hundred and twenty miles a day, until they reached a city, San Luis Obispo, about half way to their place of destination, which was Monterey, on the Pacific ocean. At San Luis Obispo the nine horses were left, and eight others taken in their places. With the fresh horses the party pursued their journey to Monterey, and returned to San Luis Obispo. Two of the latter horses had been presented to Col. FREMONT by a Californian, (Don JESUS PICO,) and were considered specimens of a famous breed called "*los canalos*," or the Cinnamons, from their being of a cinnamon color. These two horses were brothers, one a year younger than the other. To test their powers, they were, at the request of the Californian who had presented them to Col. F., put to a severe trial. On leaving Monterey, late in the afternoon, the elder horse was first put under the saddle, and ridden thirty miles, when the party stopped for the night. The next morning the same horse was again taken by Col. F., "and for ninety miles he carried him without apparent fatigue." It was still thirty miles to the place which was to be the end of their day's ride, and the Californian insisted that the horse could easily accomplish it; but Col. F. would not put him to the trial. The saddle was therefore shifted to the younger horse, and the other allowed to run loose for the remaining thirty miles. "He did so," says the writer of the account, "immediately taking the lead and keeping it all the way, and entering San Luis in a sweeping gallop, nostrils distended, snuffing the air and neighing with exultation at his return to his native pastures, his younger brother all the while running at the head of the horses under the saddle, bearing on his bit, and held in by his rider." The eight horses made a hundred and twenty miles a day till their return to San Luis Obispo, when the nine horses that had been first taken were again brought out, and the remainder of the journey performed with them at the rate of a hundred and twenty-five miles a day. It is stated that the grass along the road was the food for the horses during the journey. They are said to be trained with great care, and exhibit remarkable sagacity and spirit. Could not Col. FREMONT procure a few of the best of these horses and send them into the States? If they are what the account to which we have referred represents, they would be the most valuable *trophy* which the conquest of California has yielded us.

Influence of the Press on Ag. Improvement.

Mr. PAYSON in his address before the Essex county (Mass.) Agricultural Society, says—"To enumerate *all* the improvements which have been made in agriculture for the last half century, would take too much time. *One*, not only an improvement in itself, but the *basis* of all other improvements, must not be omitted, and that is the diffusion of agricultural knowledge by the newspaper press. Slowly, silently, almost by stealth, without the knowledge of the man himself, this mighty engine undermines old prejudices, and teaches the farmer that however independent he may be, he is not so as that the experience of others will not profit him. Most of us have become willing to seek *directions* even though they may be contained in a book. We are becoming more like liberal, freeborn and aspiring men."

In relation to the same subject, Mr. I. S. HITCHCOCK, in his address before the Oneida county, (N. Y.) society, observes—"A medium of communication between farmers was found to be indispensible to the advancement of their interests, and the periodical agricultural press was established. That agricultural journals are among the most decided, and least expensive means of promoting agriculture, no one who has been favored with their perusal for any length of time, will pretend to deny. While their influence has been highly beneficial, they have injured no one, and since their utility has been fairly tested by experience, that farmer is guilty of an unpardonable inattention to his true interests, who neglects to provide himself with a well conducted Journal of this kind. I am aware there is a prejudice against what some are pleased to

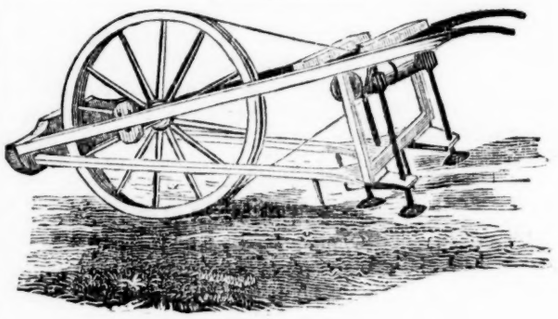
call book-farming. And what is this book farming in relation to which such unfounded and untenable prejudices prevail? Farmers communicate to each other the results of their experience in raising horses, cattle, sheep and swine, the best and most economical modes of manuring their lands, the most profitable crops, and the best manner of raising them, the best breed of animals, and the best modes by which they may be fattened—in short, everything relating to the occupation of the farmer. The results are committed to paper, go through the press and become a book, and those who choose to be aided by the experience of others, as there detailed, are guilty of book-farming."

Construction of Fences.

By many, fences are always considered as unsightly objects for enclosing grounds, and all will admit that they may detract very much from the appearance of premises they enclose. In very few cases can they be considered as really ornamental. Most persons seem to have an idea that to have a fence look well, it is only necessary that it should be expensive; and if it is expensive and costly, and somewhat different from others in its construction, it must, as a matter of course, look well. This view of the case appears to me to be entirely wrong. There is no reason why a fence, built with much labor and expense, should of necessity appear well; on the contrary, the more labor and expense, unless the design conforms to, and is in keeping with the buildings and grounds enclosed, the more will it appear out of place. As in building houses, much money may be expended in trying to render it ornamental, without producing the effect desired, merely for want of adaptation. A fence, to appear well, should be appropriate to the buildings and grounds to which they belong. It should be so constructed as to accomplish the ends for which it is required—that is, protection—and should possess strength and durability. These are some of the things necessary in a fence, and without them no fence can appear well. A good, plain, substantial farm-house, should not be surrounded by a light fancy fence, neither by an expensive ornamental one, but by one whose appearance would indicate it to be designed for service, and for protecting the ground which it encloses from all encroachments. On the other hand, a small enclosure around a cottage, while it should be designed for protection, need not be expensive, and at the same time may be made somewhat ornamental. In enclosing a large and expensive ornamental building, it would not be appropriate to place a common farm fence around it, or one of a light and fragile structure; but it should be of a character to correspond in some degree in style and finish with the building enclosed.

To explain my meaning, in my immediate neighborhood, a handsome and expensive brick building, costing from four to five thousand dollars, is enclosed with a fence made with small planed posts about four inches square, with large thin caps, and small rails framed into the posts of about twelve feet in length; into these rails are inserted round pickets, about one inch in diameter and four inches apart. These are painted green, and the remainder of the fence white. The height of the top rails as 3 ft. 3 inches, and the posts project 12 inches above it. Perhaps you will say, it is singular that a man should have sufficient taste to build a handsome house of good proportion and appearance, and not see the propriety of having a fence to correspond with it. But it is easily accounted for. In building, he copied from a house already erected near one of our cities, but he forgot to copy the fence enclosing it. When he came to build this, he exercised his own taste; hence the strange incongruity of appearance. It really detracts from the value, as well as looks of the place. The fence is sufficiently expensive, but sadly deficient in design, and is of very little protection to the grounds, because not high enough to prevent cattle from getting over it. This is but one instance in my own immediate neighborhood. Again, I know of examples where the fence is much more showy, and attracts more notice than the buildings and premises they enclose. These are perhaps extreme cases, but are such, as far as my observation goes, as are of not unusual occurrence.

Cannot you suggest to your readers something on the subject of adaptation and appropriateness of fences as enclosures, or give some examples that will tend to remedy the evils above suggested. J. *Oneida Co.*



Rotary Cultivator.

This new and improved implement, of which the above is a representation, is designed to prevent the impediments that usually attend any and every article heretofore employed in the culture of most kinds of soil. Its construction being such that the edges of the implement, which are ever acting upon the soil, always present a front free from the incumbrance that is usually met where it is stiff and unyielding. Its action is brisk and forcible, by a process which is altogether new, though simple and complete. It needs but a glance to discover, that all that is wanted to make cultivation easy, is here acquired. The proprietor of the above article, whose priority of claim to the invention is about to be secured by letters patent, would hereby give notice to the public, that an opportunity will soon be offered to test the utility and convenience of this machine as specified above.

For a full understanding of the above cut, let the wheel be understood as acting like the wheel of a common wheel-barrow, and causing, by means of the chord the cylinder to revolve. The shafts are thereby put in a semi-opposite motion, causing the circular plates of iron to act in a corresponding motion, and in a two fold manner upon the soil. In this manner the nummerous difficulties attending other implements are overcome, and much labor is saved. T. J. TUTHILL. *Elmira, N. Y., Dec.*, 1847.

Bones for Manure.

Dissolving bones in sulphuric acid has been latterly practiced in England, and is considered a preferable mode to applying them in a broken or crushed state. But Prof. WAY, in a late lecture on the growth and culture of turneps, states that he prefers muriatic to sulphuric acid for several reasons; though he thinks we may combine the benefits of both plans by the use of salt in addition to that of bones or sulphuric acid. He directs—to two bushels of bone-dust, covered with 15 or 20 gallons of water, half cwt. of common salt to be added. When the salt is well mixed and dissolved, half cwt. of the oil of vitrol (sulphuric acid) is poured upon the mixture. In these circumstances muriatic acid is produced which dissolves the bones. This compound is said to have a great attraction for water, and will be found to collect the moisture of the atmosphere, and keep the earth moist, even in severe drouth.

NOTICES OF NEW PUBLICATIONS.

THE ROSE: its History, Poetry, Culture, and Classification. By S. B PARSONS. Published by Wiley & Putnam, New-York.

The author of this work is one of the proprietors of the celebrated Commercial Garden at Flushing. In this volume, which embraces nearly three hundred pages, large octavo, Mr. PARSONS has given whatever is known relating to the origin, history and uses of the rose, from the earliest times. In the preface, he informs us that it has been an especial object "to throw around the culture of the rose, a halo of pleasant thoughts and associations," and this we think he has eminently succeeded in doing. He has given the fullest directions, accompanied by neat illustrations, in regard to the propagation of the rose, and its general management, treatment of its diseases, a notice of its medicinal properties, its early history, and its *poetry*. He has given minute descriptions of the most esteemed species and varieties. The directions for culture comprise the results of his own experience, which, as those who have seen the rich and extensive collection of roses in the garden of Messrs. PARSONS will admit, has been highly successful. The work is executed in a beautiful style, and deserves to be in the hands of every amateur in rose culture.

TRANSACTIONS OF THE MASSACHUSETTS HORTICULTURAL SOCIETY.

We have received the first number of this work, which is hereafter to be issued regularly. It is executed, generally, in a style worthy the distinguished society from which it emanates. This number contains a valuable article on the "Character, History, and Culture of the Pear," by Gen. H. A. S. DEARBORN, and also a very valuable and important communication on the "Superiority of native varieties of Fruit," by A. J. DOWNING, Esq. There are five Chromolithed plates, viz: the two new Camellias raised by M. P. WILDER, Esq., the President of the Society—the Van Mons Leon Le Clere Pear—the Williams Apple, and the Baldwin Apple—all of them accompanied with full descriptions of the articles they are intended to represent. The plates of the fruits, however, do not exhibit the peculiar characteristics of the varieties in so perfect a manner as could be wished; and the committee of publication say, that "after infinite trouble and disappointment," they "feel satisfied that the process of Chromolithing, in its present state, is not adapted for a work of the character which it is determined to stamp on the Transactions of the Massachusetts Horticultural Society;" and they have, therefore, "resolved not only that the plates of the future numbers shall appear in a very different style, but that, if possible, those of the first number shall be reproduced in a uniform manner." The typographical execution of the work is not surpassed by anything we have seen.

DOMESTIC ANIMALS: History and Description of the Horse, Mule, Cattle, Sheep, Swine, Poultry, and Farm-Dogs; with Directions for their Management, Breeding, Crossing, Rearing, Feeding, and Preparation for a Profitable Market: Also, their Diseases and Remedies, together with full Directions for the Management of the Dairy. By R. L. ALLEN. Published by C. M. SAXTON, New-York.

This work, with some important additions, constitutes a small part of the "Compend of American Agriculture," a volume by the same author. It will be found a convenient and useful manual. Mr. ALLEN is a sensible and intelligent writer, and he has embodied a large amount of valuable information in the little work before us. The subject matter seems generally to have been derived from his own experience and observation, and the style of expression is plain and comprehensive. [See advertisement.]

DOWNING'S NEW WORK.—Messrs. Wiley and Putnam have just issued a new edition of Mr. DOWNING'S "*Fruits and Fruit Trees of America*," with *seventy Plates of colored Fruits*, forming the most beautiful as well as the most valuable volume which has been issued from the American press on this subject—price $15.

MEDICO-CHIRURGICAL REVIEW.—This excellent work is hereafter to be united with "FORBES' BRITISH & FOREIGN MEDICAL REVIEW"—the title of the combined work to be "THE BRITISH AND FOREIGN MEDICO-CHIRURGICAL REVIEW."

The republication of the Medico-Chirurgical Review, has for more than twenty years been conducted by Messrs. G. R & S. WOOD, of New-York. The reputation of the work has always been of the highest character, both in Great Britain and this country. The publication with which it is now united, has also been of long standing, and has sustained a high rank with the medical faculty. It is confidently expected, therefore, that an union of the two works, aided by the contributors which have formerly supported them, will result in the production of the best medical journal extant.

We are informed that several pages of "Addenda," forming a "Quarterly Retrospect of American Practical Medicine and Surgery," will be attached to each number of the republished work, and that no charge will be made for the addition, to all subscribers who pay in advance.

We presume the new work, like its predecessor, the Medico-Chirurgical Review, of which we have frequently spoken in terms of high commendation, will be eminently deserving support, and we cannot doubt it will be liberally bestowed. Published Quarterly, by G. R. & S. WOOD, New-York—$5 per annum in advance. [See advertisement, p. 39, of this number.]

GRAHAM'S AMERICAN MONTHLY MAGAZINE.—This monthly for January is already on our table, rich in engravings and matter. It has three beautiful steel plates, one of which is a portrait of Gen. Wm. O. Butler, of Kentucky—with a biographical notice by F. P. Blair, Esq. Among the other contributors to this number, which contains 24 extra pages, are Messrs. Cooper, Fay, Willis, Simms, Herbert, Roe, Paulding, Chandler, Bryant, Mrs. Sigourney, Mrs. Ward, and several others well known to fame.

GODEY'S LADY'S BOOK for January, with its beautiful embellishments, and 24 pages of extra matter, has already appeared. The engraved title-page is worth the price of the number, to say nothing of the other illustrations. Among the contributors to this number, are Mrs. Kirkland, Mrs. Ellett, Mrs. Hale, Miss Leslie, Grace Greenwood, Arthur Taylor, Weld, and others. [See advertisement.]

FARMER AND MECHANIC, a weekly publication, devoted to Agriculture, Mechanics, Science and the Arts. It is a spirited work, and furnishes much information on the subject, to which it is devoted. In mechanics it furnishes many illustrations of new machines, notices new inventions, and we should think would be highly useful to persons engaged in mechanical employments. Its terms are two dollars a year, *in advance*. W. H. STARR, editor and proprietor, New-York.

Answers to Inquiries.

CHINESE GEESE.—J. C. N. A., Richfield Springs. Chinese Geese can be had in this vicinity at $5 per pair. We cannot tell how much weight in feathers a pair will produce in a year. They are not large, but the feathers are thickly set, and appear to be finer than those of common geese. They readily breed with any of the domestic kinds.

CARROTS.—"A SUBSCRIBER," Frederick, Md. Carrots are usually fed raw to horses and cattle. They are sometimes fed to hogs, but do not seem to be as valuable for them as for some other kinds of stock. Directions in regard to their culture may be found in the Cultivator, vol. 2, new series, page 154, and in vol. 3, p. 159.

PEA-NUT, (*Arcahis hypogæa,*) or GROUND PEA.—P. N. Norristown, Pa. This article is considerably cultivated in some of our southern states under the name of *pindars*. The seed is planted in rows five feet apart, and a foot apart in the row, as early in spring as the weather and the state of the soil will admit. They are dug in the fall before hard frost. The tops dried, make good fodder for horses and cattle. It is said that the poorest land in Mississippi will produce from fifty to eighty bushels of peanuts per acre. The only cultivation needed is to keep the ground clean.

PRESERVATION OF CABBAGES.—F. G. R., Shadwell, Va. In a climate as mild as that of your section, we should suppose the best way of preserving cabbages through the winter, would be to place them in long piles or winrows, and cover them with straw or corn-stalks. A layer of earth in addition may be needed in the coldest weather. They are easily taken for use as they may be wanted, by beginning at one end and continuing to take them till the pile is finished.

GUANO.—P. R. B., Cattawissa, Pa. Two hundred pounds of guano is the quantity usually recommended for an acre. It should be previously mixed with about four times its bulk of finely pulverized earth—sand will be most convenient for the purpose—and it may be spread broadcast on the surface of the ground immediately before putting in the seed. It is sometimes applied to gardens in a liquid state. Four pounds of guano are put to twelve gallons of water, and after it has stood twenty-four hours, it is applied to the ground by a watering apparatus.

CONVERTING CORN-STALKS INTO MANURE.—P. H. A., Baltimore Co., Md. The best way of "converting dry corn-stalks into manure, *speedily*," with which we are acquainted, is to pass them first through a strong cutting machine, calculated for the purpose, and then place them in a heap with manure, or muck, and saturate it with urine. The urine may be saved by conveying it from the stalls where the animals are kept, to tanks, or temporary hollows, from which it may readily be taken to the heap. Fermentation will take place in a short time.

PRICE OF WOOD IN PARIS.—An American in Paris says, that so high is the price of wood in Paris, in consequence of the forests having been mostly consumed, and the high duty on English coal, that it is usually sold by the pound—and that the dealers keep it locked up in-doors, "lest while the wood-merchant was looking one way, some scoundrel might fill his pockets, and be off!"

PRICES OF GRAPES.—P. Barry says that the common market price of the best exotic grapes, raised in houses at Boston, is 75 cents to $1 per lb.

New-York State Ag. Society.

The annual meeting of the Society will be held on the *3d Wednesday (19th) of January at the Capitol.* On Wednesday evening an address will be delivered by Prof. J. P. NORTON of Yale College. On Thursday evening, an address by the President, GEORGE VAIL, Esq. The reports of Committees and awards of premiums will be made on Thursday morning at the agricultural rooms. B. P. JOHNSON, *Sec'y.*

COMMITTEES APPOINTED FOR WINTER MEETING.

☞ Their attendance is desired as early as Tuesday morning the 18th of January.

Management of Farms.—J. Stanton Gould, Columbia, and A. Van Bergen, Greene.

Stall feeding Cattle, and fattening with Indian Corn.—S. Howard, Albany, and Henry Wager, Oneida.

Draining and Top Dressing.—J. P. Beekman, Columbia, and A. Ayrault, Livingston.

Designs for Farm Buildings.—Wm. Buel, Monroe; B. N. Huntington, Oneida, and J. McD. McIntyre.

Cheese Dairies.—B. P. Johnson, Oneida, and Thos. Burch, Herkimer.

Butter Dairies.—R. Denniston, Orange, and J. Carey, Albany.

Wheat and Indian Corn.—George Geddes, Onondaga, and L. C. Ball, Rensselaer.

Barley, Rye, Oats, Peas, and Beans.—E. Comstock, Oneida, and W. P. Coons, Rensselaer.

Potatoes, Ruta Bagas, &c.—E. P. Prentice, Albany, and Martin Springer, Rensselaer.

Corn Fodder, Hay, Hops, &c.—Benj. Enos, Madison, and Seth Hastings, Rensselaer.

Experiments, Soiling, and Manures.—Prof. E. Emmons, Albany, and Joseph Daniels, Saratoga.

Management of Sheep.—M. Y. Tilden, Columbia, J. McDonald, Washington.

Fruit.—L. F. Allen, Sam'l Young, H. Wendell, A. J. Downing, and J. W. Bissell.

LIVE STOCK IN VERMONT.—Vermont will probably always be a stock and wool-growing state. Her hills and vales, and the thousand cool and refreshing rivulets that empty themselves from the one to the other, has destined it for a grazing country. In 1840, she had more horses and more neat cattle than any of the New-England States; her number of sheep was nearly equal to the whole of those states combined. She cut more hay and produced more oats than either. The value of her dairy products was but a trifle below that of Massachusetts, and it would have exceeded that even, were it not on account of our distance from market. She stands next to the great state of New-York in her quantity of wool, and her quantity to each individual is about double that of the last mentioned state. —*Richardson's Address.*

EFFECTS OF FAMINE.—The village of South Reen, in the west part of the county of Cork, says the Southern Reporter, contained in the early part of the year 62 houses, and 320 inhabitants. It now has but 50 inhabitants, and 8 small hovels remaining, the rest of the houses having been broken up to furnish coffins for the dead and fuel for the living.

POTATO CROP IN IRELAND.—It is estimated that, until the present year, the potato crop in Ireland has occupied two million acres—the present year it is estimated that only *one-fourth* the usual quantity has been planted, the remaining three-fourths having been planted with other crops, or remaining uncultivated.

TO SAVE HORSES FROM FIRE.—The difficulty of getting horses from burning stables is well known, to remedy which, *blind-fold* them perfectly, and by gentle usage they may easily be led out.

MONTHLY NOTICES—TO CORRESPONDENTS, &c.

COMMUNICATIONS have been received since our last, from A Vinedresser, J. C. N. A., P. N., R. W., F. Holbrook, Prof. J. P. Norton, H., A Horticulturist, B., Cheap Comfort, Erastus W. Ellsworth, S. W. Jewett, T. J. Tuthill, H. A. Parsons, J., N. B. V., A Manual Laborer, David Thomas, X., S. Atherton, W. R. Peek, J. G. C.

BOOKS, PAMPHLETS, &c., have been received since our last, as follows:—*Address of Ira S. Hitchcock, Esq.*, President of the Oneida Ag. Society, together with the Reports of Committees, &c., of the Society, from JAS. REES, Rec. Secretary.——*Oswego Beurré Pears*, from J. F. Allen, Esq., Oswego.——*The Rose*, its History, Poetry, Culture and Classification, by S. B. PARSONS, from the publishers, Wiley & Putnam, New-York.——*Catalogue of New Works*, published by Wiley & Putnam, New-York.——*Horticultural Report* of the American Institute for 1847, by THOMAS BRIDGMAN. *Mr. Payson's Address* before the Essex (Mass.) Ag. Society.——*Transactions of the Mass. Hort. Society*, No. I.——*Address of B. P. Johnson*, before Greene co. Ag. Society, with account of Fair, &c.——*Morning Star* for the New Jerusalem Church, containing the Essentials of all the Scriptures or Word; being thus a Guide for Man in all his Duty to himself, his fellow man and neighbor. By JAMES CRAMER OTT. Baltimore: Sherwood & Co.——*Report on Farms*, by the committee of the Talbot Co. (Md.,) Ag. Society.——*Domestic Animals:* their History, Description, Management and Diseases. By R. L. ALLEN. New-York: C. M. Saxton.——*Catalogue of Astoria Nursery*, by L. PREVOST.——*Introductory Lecture* on the relations of Chemistry to the Vital Force, by D. P. GARDNER, M. D., Prof. of Chemistry, &c., in the Philadelphia College of Medicine.

NEW ILLUSTRATIONS—The portrait and memoir of Judge BUEL, given in our present number, we design as the commencement of a series of similar illustrations and articles. Many individuals have been distinguished for the exertions they have made in the improvement of the agriculture of the country; and we believe that a proper record and exhibition of these examples, cannot fail to exert a salutary influence on society. We have, therefore adopted means for procuring materials which will enable us to furnish portraits and biographical sketches of several gentlemen, which we think will add greatly to the interest as well as value of our columns, and will, we have no doubt, be duly estimated by our readers.

☞ An article on MASSACHUSETTS FARMING, which was prepared for this number, is unavoidable deferred to our next.

☛ Will some of our readers inform us whether the BLACK-BERRY is cultivated?—stating the mode of cultivation, and the success in the production of fruit.

ERRATUM.—In "*Notes of a Traveller in England and Wales*," in our December number, for "Ouns Head," read ORMS HEAD.

SAMPLES OF WOOL.—We have received from JAMES M. TRIMBLE, Esq., of Hillsborough, Ohio, some samples of wool from his flock of sheep. The samples are not of uniform quality, but some of them are nearly equal in fineness to the best Saxon in the country.

LARGE HOG.—Mr. JENNINGS, provision dealer of this city, purchased a full blood Berkshire hog, two years old, which weighed, dressed, 720 lbs., from Mr. SAMUEL SHAW, of Berlin, in this county.

FINE CATTLE.—A pair of extraordinary oxen, raised by ALLEN AYRAULT, Esq., of Geneseo, passed through this city on their way to Boston in November last. They tarried here a few days, and we had an opportunity of seeing them. They are twins, nearly full-blood Durhams, and though but six years old, were greatly superior in size and fatness to any cattle we have before seen. In symmetry and "*quality*," (as the English butchers say,) they were also remarkably fine; one of them in particular, the darkest colored one, we think decidedly the *best* ox we ever saw—he had a larger proportion of high-priced meat, compared with the inferior portions and offal, than any other animal of his species that we have met with. We intended to have had the dimensions of this ox taken accurately, that they might have been compared with the celebrated "English Durham ox," bred by CHAS. COLLING, but he left here before we had an opportunity. It was the opinion of our best judges, several of whom have been acquainted with the best cattle in Great Britain, that these oxen would compare favorably with any of the prize animals in that country. We did not learn the exact live weight of these cattle. When they are slaughtered, we would thank some one to forward us an accurate account of their weight.

FUEL.—If the farmer has not already obtained a year's supply of wood, he should endeavor to procure it before the snow gets deep. Wood can be cut to the best advantage when the ground is bare, or only covered with a few inches of snow. The trees can then be cut low, the limbs readily trimmed up, and all the wood saved. It should be piled in the woods till it is convenient to convey it to the house or to market. The most convenient mode of carrying is by sleds, and the first favorable snow should be taken for this purpose. Before the first of April it should be sawed, (not cut up with an axe,) and every stick that is more than two inches through, should be split, and it should be placed under cover to season. Wood thus managed is much better than that which remains in the woods till the bark rots off, to say nothing of the extra comfort and satisfaction to be enjoyed by it.

SEEDLING APPLE.—Mr. C. E. BOARDMAN, of Cario, Greene County, N. Y., has left us a specimen of an apple said to have been raised from seed in his neighborhood. We think it highly deserving of notice. It is of rather large size, and in color resembles the Maiden's Blush. Its flavor is good. Ripens from November to January.

☞ Mr. PETER VAN NESS, has left us two samples of apples, the names of which he wishes to learn. One of them is an excellent kind, somewhat resembling the Fall Pippin, but a much later keeper. We will endeavor to ascertain its name. We have also received from RODMAN SISSON, Esq., of Abington, Susquehannah Co., Pa., some very handsome specimens of the Greening, Belleflower, Jilleflower, and one or two varieties unknown to us.

☞ We are informed that the horse Gifford Morgan, lately owned by Mr. F. A. WIER, has been sold to a company, the members of which reside in Vermont and New Hampshire, for two thousand dollars. He was placed in shares of one hundred dollars each, his former owner, Mr. WIER, retaining one share. We learn that this company, or some of the members of it, own several mares of the highest existing Morgan blood, which have been bred, and are in future to be bred, to

the above horse. This arrangement, with other efforts which are being made, will ensure the perpetuation of this valuable stock, which would otherwise have been lost beyond recovery in the course of a few years. The old horse, though coming *two-and-twenty*, is still vigorous, and capable, with good usage, of much service.

THE "PHŒNIX STOCK" OF CATTLE.—In our notes on Massachusetts farming, we had occasion to mention some cattle called the "*Phœnix Stock*." We saw some of this stock on the farms of B. B. BELCHER, Springfield, PLINY CHAPIN, and CHESTER W. CHAPIN, of Chickopee, and in other places. The resemblance among them is very striking—not only the half-bloods, but those of a quarter-blood, and even less, exhibiting the family traits so plainly that it was easy to distinguish them from other animals in the herds. Their leading points are a lean head, with horns of medium length; prominent eye; long neck, rather small at the junction of the head; a straight back; moderately round body; deep hind quarters; clean, flat legs; color generally yellowish dun, with brindled streaks. Nearly all of them are good handlers, and they are generally excellent for the dairy.

On inquiring the origin of this stock, we were told that it was derived from a bull introduced by the Rev. Mr. PHŒNIX, late of Chickopee, (now of New Haven,) in 1835 or '36. Mr. LATHROP, of South Hadley, informed us that he had taken some pains to ascertain his blood. Mr. L. found that he came from a cow owned by Judge INGRAHAM, of New-York. She was imported, and was called a "Durham cow." The bull was dropped on the passage from England, or soon after the cow arrived in this country. This was all which could be told of the bull's pedigree. He was spotted, white, with large patches of brindled-yellow. He was small and poor when brought to Massachusetts, but after a year or two grew well, and became a mediumed-sized animal. It has been *conjectured*, from the color and quality of the stock, that he was a mixture of Short Horn and Alderney blood.

At the Hartford show we saw a superior cow, belonging to Mr. JAS. H. CHARLTON, of East Windsor, which we were told was of this stock. Mr. C. stated that 28 lbs., 1 oz. of butter were produced from her milk in two weeks, in June, 1847, and that from the 12th to the 22d of June, the weight of her milk averaged 57 lbs. per day—her keeping grass only.

We suggest that efforts be made to preserve this stock. Let the best of the cows be put to bulls which will be likely to preserve in their progeny the valuable qualities for which the family is distinguished.

ADULTERATED WINES.—A correspondent in Dutchess county says:—"The article on wines in the December number of the Cultivator, reminds me of a fact that came to my knowledge in Paris. A physician attending lectures in Paris, told me that he analysed a bottle of the lowest priced wine there, (Paris)—the *Vin Ordinarie of laborers, &c.*, and found that it contained a quantity of the *Sugar of Lead*."

SALES OF STOCK.—We noticed last month some fine cattle and sheep from LEWIS F. ALLEN, Esq., of Buffalo, destined for E. K. BROWN, Esq., of Mississippi. There was a yearling Durham bull, and two Devon heifers—the latter two years old. The sheep were a pair each of Cotswolds and South Downs. Having been several days on their journey under unfavorable circumstances, they did not, of course, appear to that advantage they would have done in their own stables or yards; but should they succeed in reaching their destination without material injury, we presume, from their good points, they will prove creditable to their breeder, and to the breeds to which they belong.

C. N. BEMENT, Esq., of this city, has lately disposed of some stock to Dr. J. N. LANGDON, of Kennebunk, Port, Maine. The stock consisted of a bull calf and a yearling heifer, a cross of the Ayrshire and Durham. They were very pretty animals, and we presume will make good dairy stock.

CULTIVATION OF ONIONS.—Mr. H.W. S. CLEVELAND, of Burlington, N. J., requests that some of our Eastern correspondents would give, through the Cultivator, an account of their mode of raising onions as a field crop. He wishes to know "what kind of soil is best, how it is prepared, what is the after-culture, and the best time and mode of harvesting and preparing for market, and what is considered a fair yield per acre?" He asks, also, whether a natural growth of wild garlic is any evidence that the soil is fitted for onions? We presume many of our subscribers could reply to these queries, and we should be glad to hear from them.

EXHIBITION OF THE PROVINCIAL AGRICULTURAL ASSOCIATION OF UPPER CANADA.—This Society held a splendid exhibition at Hamilton, on the 7th of October last. The weather was very unfavorable, but there was notwithstanding a vast crowd of people in attendance, and the display of stock, implements, fruits, &c., appears to have been very extensive. We rejoice at the improvement which is evidently going on in the agriculture of the Canadas. The government and leading individuals seem to be warmly engaged in the cause. We are informed that there are already in Western or Upper Canada, upwards of one hundred agricultural societies, and with these means, and the fertile soil and ready markets which the farmers of that section possess, we cannot doubt that they will shortly become eminently prosperous.

PREVENTING THE POTATO ROT.—An intelligent farmer on a small scale, has tried a remedy for several years, which, though not new, has been attended with such uniform success, as to deserve mentioning. He cultivates the Mercer, a variety well known to be unusually liable to the rot. The crop is planted *very early*, almost as soon as the snow disappears in spring, so that the potatoes are fully matured by the end of summer. In the latter part of the eighth month (Aug.) the potatoes are dug, and immediately housed in as dry and cool a place as possible. By this means he has never lost a bushel, although his neighbors, who live close at hand on either side, and who plant and harvest their crops later, have suffered abundantly.

THE APPLE CROP.—The inequality of the apple crop in different regions the past season, is remarkable. In central Ohio, in the valley of the Hudson, and on the seaboard, this fruit has been more or less cut off; while in a large part of western New-York, it has not been so great for several years. A correspondent on Long Island states that in an orchard of twelve acres, he did not obtain half a bushel. Another correspondent in East Greenwich, gives the following account of the singular circumstances attending its destruction in that part of Rhode Island:—"We had the most meagre prospect of apples I have known for years, and the Rose bugs in myriads attacked the scattering fruits while not larger than a nut, and from ten to twenty might be seen upon a single fruit. Nothing equal to it was ever seen in this region; the destruction is long on the seaboard; and fortunately a west wind blew them into the sea in such quantities, that they literally formed a winrow on shore for miles, and a wagon load might have been collected in a short time on some parts, as I have been informed repeatedly."

SCIENCE AND PRACTICE IN FARMING.—B. P. JOHNSON, Esq., in his address before the Greene County Agricultural Society, makes the following just observations in regard to combining science and practice in agriculture:—"The man who in his study theorizes

about farming, and never has had his theories tested in the field, is not the man we need. But where practice and theory are combined and carried out by the *practical farmer* on his farm, we cannot fail eventually to receive great advantages. I would urge, therefore, upon farmers, to give the results of their labors through the agricultural press, and thus contribute to the dissemination of facts which will benefit others, and may lead to the most auspicious results."

Measuring Hay.—The Mass. Ploughman says that 600 cubic feet of hay are usually sold for a ton, if well packed—equal to a mass ten feet square and six feet high. But in deep bays, 500, and even 400 in some extreme cases, will make a ton. A farmer who has a bay 20 by 30 feet, and 15 feet high, may therefore reckon upon having about 15 tons of hay; the amount will of course vary with the kind of hay. A little measuring and subsequent weighing would soon enable any farmer to determine with considerable accuracy the quantity of hay he may have on hand, and make his calculations accordingly.

Wheat in Northern England.—A correspondent of the Genesse Farmer, now in England, says that the soil between Carlisle and Newcastle, does not appear to be superior to that of Monroe county, N. Y., yet thirty bushels of wheat per acre is a very common yield, often forty, and sometimes fifty. Although this fine product is largely attributable to good farming, he thinks it is in some degree owing to the coolness of the climate favoring more perfectly the ripening and filling of the heads.

Wheat and Chess.—Wm. Powers, of Youngstown, Ohio, gives the following experiment in the Ohio Cultivator:—He was about sowing his wheat, believing it to be *perfectly clean;* but, on being advised, concluded to brine and lime it first. When the brine was poured on, to his surprise he found chess floating thickly on the surface, and on being skimmed off, about a pint and a half were obtained from each bushel of seed. This would thoroughly seed any ground; but if the wheat grew well, the chess would be kept small and hidden; where winter killed, it would spring up, spread out, and occupy the whole ground, and be attributed by superficial observers, to the change of the killed wheat to chess. The wheat, however, was thoroughly cleaned by brining, so that where it was winter killed and fly-eaten, no chess appeared.

Irrigation in China.—In cultivating *rice*, the sloping land is formed into terraces, and a stream is conducted upon the upper terrace, and from that to each successive one below, thus flooding the whole surface to the depth of several inches, or sufficient for the rice. As soon as the crop assumes a ripening hue, the water is readily turned off from any of the terraces.

Winter Feeding Cattle.—Wm. Wallis, an intelligent correspondent of the Ohio Cultivator, states a great improvement in the winter feeding of cattle, which consists in *warming* the food by fermentation. This is effected in large wooden boxes or vats, holding about a hundred bushels each. Sliced roots, chaff, cut straw and hay, &c., moistened with water, are jammed, and covered tight. In three days they are fed out, three times a day. Three boxes keep up a regular succession of this heated food. Cattle are fond of it, and thrive finely.

Fertility of Subsoil.—It sometimes happens that the subsoil contains very enriching ingredients, and becomes of great value when brought to the surface. H. N. Gillett, in the Ohio Cultivator, states that on the farm of James Kelly, Lawrence county, Ohio, land obtained in digging a well, was planted with corn, and gave an extraordinary product, some of the ears being *twenty-two inches* in length. Experiments on a small scale, by trench-plowing, are easily tried on every farm; and in many cases they would lead to highly important and valuable results.

Draught in Plowing.—A correspondent of the Farmer's Cabinet, very justly observes that farmers often commit a great error, in shortening the draught too much under the supposition that they lighten the exertion of the team. They may do so, with a cart or sled, the load being in part transferred to the horse's backs. But in plowing, "the plow must be *set* so as to *swim*, without any tendency to rise or sink;" this important object being attained, the length of chain is immaterial.

Apples to China.—R. L. Pell, of Ulster, has shipped a hundred barrels of Newtown pippins to China; the first shipment of apples made to that country.

Green and dry Fodder.—Boussingault has come to the conclusion, from actual and carefully conducted experiments in feeding cattle, that a given quantity of fodder, whether green or dry, contains the same amount of nutriment; that is, an acre of hay will go as far in feeding, if fed dry, as it would if fed immediately after cutting.

Paring Apples.—The N. Y. Farmer and Mechanic says that an improved machine for paring apples has been patented by Bullock and Benson of New-York, which will "perfectly take off the skin of an apple, in the neatest manner, in about one second, and continue to work at this rate as fast as the apples can be taken off and put on. It is quite simple in construction. The price two and a half to three dollars."

PRICES OF AGRICULTURAL PRODUCTS.

New-York, Dec. 22, 1847.

FLOUR—Genesee per bbl. $6.31½a$6.50—Ohio and Michigan $6.12½a$6.25—Buckwheat flour, $2 per 100 lbs.

GRAIN.—Wheat, Western. per bu., $1.40—Corn, northern, 71a74c.—Rye, 87c.—Oats, 49a50c.—Barley 80c.

BUTTER—Orange County, per lb., 19a21c.—Western, dairy, 11a16 cents.

CHEESE—per lb., 6a7c.

BEEF—Mess, per bbl., $8.50a$8.75.—Prime $5a$5.50.

PORK—Mess, per bbl., $12—Prime, $8.

HAMS—Smoked, per lb.,

LARD—Per lb. 8a8½c.

HEMP—Russia clean, per ton, $230.

HOPS—First sort, per lb., 6a8c.

COTTON—New Orleans and Alabama, per lb., 6¼a8¾c.—Upland and Florida, 6¼a8½c.

WOOL—(Boston prices,) Dec. 22.

Prime or Saxon fleeces, washed per lb.....	45a50	cts.
American full blood fleeces,.....	40a45	"
" three-fourths blood fleeces,.....	35a38	"
" half blood do	32a35	"
" one-fourth blood and common.....	28a30	"

Live-Stock Market—Brighton, Mass., Dec. 20.

At market, 550 Beef Cattle, 100 stores, 21 yokes of Working Oxen, 25 Cows and Calves, 2,800 Sheep and Lambs, and 600 Swine.

In consequence of the small number of Cattle, prices advanced a trifle from our last quotations.

Prices—Beef Cattle: We quote extra $6 75; first quality $6a6.50; second quality $5.25a5.75; third quality $4a4.75.

Sheep and Lambs: Sales of lots at from $1.33 to 2.36.

Swine: Lots to peddle at 4¼ for Sows, and 5 3-8 for Barrows; at retail 5½a7c.

THE LADY'S DOLLAR NEWSPAPER,

CONTAINING articles from the best writers of England and America, and translations from other languages. Also, all the

English Annuals Entire,

which cost in this city from $5 to $10 each. An Annual will be published in one number, which will cost about four cents to the subscribers of the Lady's Dollar Newspaper.

In addition to the above, the paper will contain Tales, Poetry, Essays, Feminine Accomplishments, Useful Receipts for the Toilet, (from a work which has been imported expressly,) Fashions, Health, Fancy Work, Housekeeping, Domestic and Fancy Cookery, from Soyer's great book, just published.

It will be seen that the subscribers to this work will receive twice a week for one dollar, that which in any other shape would cost them from $3 to $6.

TERMS.

Single copy one year in advance, $1; six copies, $5; thirteen copies, $10.

A copy of either work sent as a specimen gratis to any person who will pay the postage on the letter requesting it. Address

L. A. GODEY,

Jan. 1—2t. 113 Chestnut-st., Philadelphia.

VALUABLE BOOKS

For sale at the Office of the Cultivator.

FRUITS AND FRUIT TREES of America—illustrated edition, with Seventy colored Plates of Fruits—price $15.—Also, the cheap edition of the same work—price $1.50.

THE FRUIT CULTURIST, by J. J. Thomas—price 50 cents.

THE HORTICULTURIST, Vol. I, by A. J. Downing—bound in muslin, $3 50—stitched, in French style, to send by mail, $3.00.

THE CULTIVATOR, first series, 10 vols. quarto—stiched, $8.00. Second series, 4 vols. octavo—bound $1.25 per vol.—stitched, $1 per vol.

AMERICAN SHEPHERD, by L.A. Morrell—price $1.25.

THE AMERICAN VETERINARIAN, by S. W. Cole—price 50 cents.

DOMESUIC ANIMALS, by R. L. Allen—price 75 cents.

TRANSACTIONS of the N. Y. State Ag. Society—price $1 per vol.

AMERICAN AGRICULTURE, by R. L. Allen—price $1.

Prof. JOHNSTON'S LECTURES on Agricultural Chemistry—$1.25.

LANDSCAPE GARDENING, by A. J. Downing—price $3.50. Cottage Residences by the same author—$2.

HINTS TO YOUNG ARCHITECTS, by Wightwick, with additions by A. J. Downing—price $1.50.

Jan. 1, 1848.

JUST PUBLISHED, AN ILLUSTRATED TREATISE ON DOMESTIC ANIMALS,

Being a History and Description of the Horse, Mule, Cattle, Sheep, Swine, Poultry, and Farm Dogs

WITH directions for their Management, Breeding, Crossing, Rearing, Feeding, and preparation for a profitable market. Also, their Diseases and Remedies, together with full directions for the Management of the Dairy, and the comparative economy and advantages of working animals, the Horse, Mule, Oxen, &c. By R. L. ALLEN, author of "Compend of American Agriculture," etc.

The above work contains more than FORTY ENGRAVINGS and PORTRAITS of improved animals, illustrative of the different breeds and various subjects treated in it.

The most minute as well as general principles for breeding, crossing, rearing feeding, and management of all domestic animals, are herein given, to produce the utmost marketable value for the food and attention bestowed on them; as well as to prevent disease, and save the immense losses which annually occur from this source.

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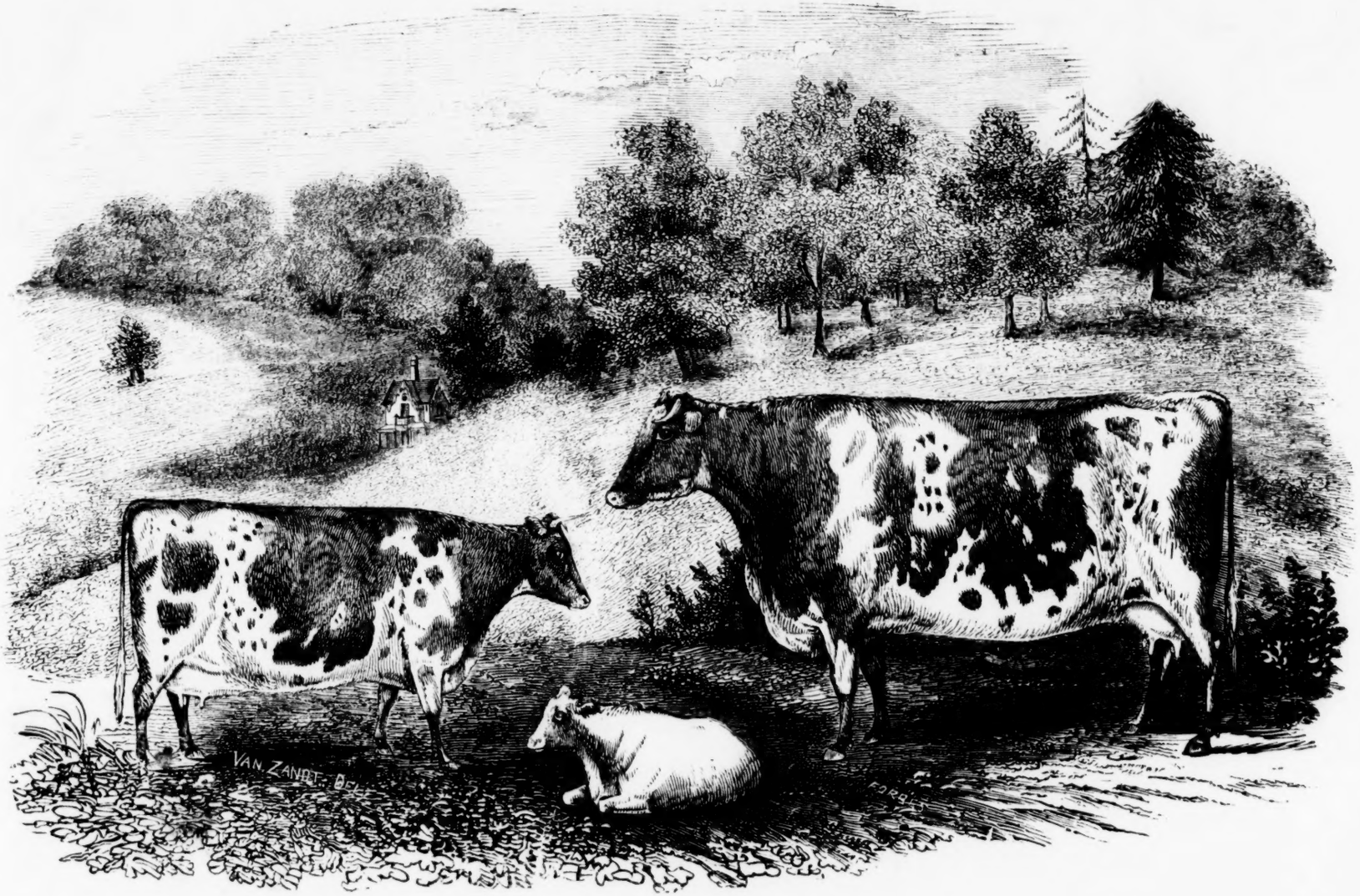

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